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VIEW

OF THE

UNITED STATES,

HISTORICAL, GEOGRAPHICAL, AND STATISTICAL;

1427

EXHIBITING, IN A CONVENIENT FORM,

THE NATURAL AND ARTIFICIAL FEATURES

OF THE

SEVERAL STATES,

AND EMBRACING THOSE LEADING BRANCHES OF HISTORY AND STATISTICS BEST ADAPTED TO DEVELOP THE PRESENT CONDITION OF THE

NORTH AMERICAN UNION.

ILLUSTRATED WITH MAPS, &c.

BY WILLIAM DARBY.

VOL. II.

PHILADELPHIA:

PUBLISHED BY H. S. TANNER.

1828.

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Eastern District of Pennsylvania, ss.

BE IT REMEMBERED, that on the twentieth day of October, in the fifty-third year of the Independence of the United States of America, A. D. 1828, Henry S. Tanner of the said district hath deposited in this office the title of a book, the right whereof he claims as proprietor, in the words following, to wit:

"View of the United States, Historical, Geographical, and Statistical; exhibiting, in a convenient form, the Natural and Artificial Features of the several States, and embracing those leading branches of History and Statistics best adapted to develop the present condition of the North American Union. Illustrated with Maps, &c. By William Darby."

In conformity to the Act of Congress of the United States, intituled, "An Act for the Encouragement of Learning, by securing the copies of Maps, Charts, and Books to the Authors and Proprietors of such copies, during the times therein mentioned;" and also to an Act entitled, "An Act, supplementary to an Act, entitled, an Act for the Encouragement of Learning, by securing the copies of Maps Charts, and Books, to the authors and proprietors of such copies during the times therein mentioned, and extending the benefits thereof to the arts of designing, engraving, and etching historical and other prints."

D. CALDWELL,
Clerk of the Eastern District of Pennsylvania.

MIFFLIN AND PARRY, PRINTERS.

CHAPTER X.

CLIMATE OF THE UNITED STATES.

The meteorological phenomena of the United States, comprising so large a section of the earth, can not be comprehended, except when taken in connexion with the atmospheric changes of not alone the continent of America, but with those of the whole planet.

The extent of the United States' territory, as a physical portion of the earth, has been given in Chap. II. page 57. In relative position it extends from N. lat. 24° 47′ to N. lat. 51°, and from 10° E. to 51° W. long. Having a long, and, as respects the meridians, an oblique front on the Atlantic ocean, and occupying a nearly central position in the northern temperate zone, the climate of the United States must present some peculiarities, but leaving its general phenomena subject to those universal laws which regulate atmospheric revolution. Before entering on the subject of this chapter, some preparatory remarks may not be, however, irrelevant on the sources from which the data have been derived, and on the particular confidence due to the thermometer as a philosophical instrument. "Thermometrical observations depend so much on the place where the instruments are fixed; from their relative situation in respect to the most prevalent winds; and on the hours of observation, that their results can be admitted as comparative estimates only when the philosopher who undertakes to reconcile them is certain that they have been made nearly in a uniform manner."*

* Jules de Wallenstein, Trans. Am. Phil. Soc. New Series, vol. ii. page 433.

It is with regret that I am compelled to admit a very great discrepancy in thermometrical observations in the United States, and that besides other defects in the mode of conducting them, they are made too exclusively whilst the sun is above the horizon; but with the necessary allowance for unconnected and untimely observation, the thermometer affords an excellent means of comparing the general temperature of different and distant places, and is, when even used rather unskilfully, an infinitely superior dependance to mere hypothesis. Thermometrical observations in any case, however, to have full efficacy in the formation of a theory of climate, must be taken in connexion with prevalent winds. It was the utter neglect of these criteria, and of relative height, which rendered Volney's View so obnoxious to criticism. "The observations which I have made until the present time, accord so little with the conclusions of M. de Volney on the climate of Washington, and I am so little disposed to hazard assertions against so renowned an author, though he has himself given me the example, that I prefer employing myself rather to a redoubled attention to my own researches, than to risk imitating him if he has been too rash in his conjectures, or not to resemble him if he has carefully observed what he has stated to have examined."*

The playful but just censure of M. de Wallenstein I am bold enough to adopt, and extend to the United States, and rest my sustaining the charge on the enclosed document.

From causes, in the detail of which the reader cannot be interested, I have been with not many intervals of rest, upwards of thirty years engaged in pursuits, which led to an attention to the changes

* Jules de Wallenstein, Trans. A. P. S. New Series, vol. ii. page 428.

of the seasons, and my comparisons have extended over the United States from the 29th to the 45th of N. lat.

Volney's treatise on the Climate of the United States, fell into my hands early in life, and then excited strong doubts of the philosophical accuracy of many conclusions drawn by that author, and in particular, of a mysterious mildness of climate in the Mississippi basin. In opposition to the theory of Volney, I witnessed the annual freezing of rivers west of the mountains, to an extent greatly in excess over similar operations of nature on like latitudes on the Atlantic coast. The destructive influence of frost on vegetation was also brought before my eyes annually, which, with long tedious winters and deep and durable snows, all united to excite more than doubts, respecting a pretended high temperature. On the first reading of Volney's View, I could not avoid observing, that his stay in the country was utterly too short to admit the collection of facts from others, much less to make observations of his own; but of all objections to this author, the most conclusive is, his entire disregard of the influence of relative height on aerial temperature. This omission must at once decide his unfitness for the investigation of the subject of climate, either general or special. The following pages and tables taken from actual observation, will determine how far the winters of central North America deserve a character of superior mildness.

There are four means of determining relative temperature: first, the occurrence and duration of snow; second, freezing of water; third, effect of frost on vegetation; and fourthly, thermometers of various construction.

Of the three first, it will be needless to descant in this place, their effects will be adduced in the course of the chapter; but the thermometer having come into such very general use, demands some inquiry how

far its results are entitled to confidence in settling questions of comparative climate. The validity of results drawn from this instrument as the observations are usually conducted, has been called in question by high authority. In the Quarterly Journal of Science, London, October 1821, page 97, Mr. J. F. Daniel observes, that "Mr. Howard in his late laborious work on the climate of London, has shewn the proper use to be made of such accumulations of facts. It is only by collecting the means of different seasons, thereby neutralizing errors of observation and accidental irregularities; by arranging them in periods chosen according to the influence of particular circumstances; and by carefully collecting and comparing them, however tedious the operation, that we can hope to arrive at certain consequences, and useful results from the preliminary labour. Many, indeed, appear at present to be observers of meteorological phenomena to judge by the registers, which regularly contribute their expletive powers, to every magazine and journal which issues from the press; but for want of proper direction and concert, their perseverance, it is to be feared, is wholly fruitless. The observers themselves, rarely attempt to reason upon their observations, and no one will ever be found willing to sacrifice his time in arranging volumes of materials, when the very accuracy of the instruments, with which they have been collected, may be doubted.

"But who can wonder at this want of co-operation, or to whom shall we look to turn this labour into a useful channel, when even the correctness of the tables, published in the transactions of the Royal Society, has been publicly called in question by Mr. Howard, Mr. Dalton, and Dr. Thomson? The parade of such observations, when confidence in their *care (the observers')* has once been suspended, is *worse than useless;*—it is injurious to science."

This, though severe, is a solid criticism on the common thermometrical tables, and supported by a very competent observer in the United States.

"Thermometrical observations, by different persons, vary so much, that many treat them with very little respect. In fact, an approximation to correctness can only result from the use of good instruments, and carefulness about their exposure. This, and the other reports I have published, are founded on a careful comparison of different instruments. I have *two* placed in a northern aspect, at an elevation of near 20 feet from the ground, where they are not exposed to the direct rays of the sun, nor can be much acted upon by reflection, or radiation, of heat, from the neighbouring buildings or paving; though I am well aware, that it is difficult, if not impossible, altogether to prevent this source of exaggeration in a city or considerable town. This is one of the great causes why in country places the heat is less oppressive than in towns built of brick, and with paved streets. On the other hand, a situation permanently defended from the sun's rays, and in a damp yard surrounded with high walls, will never exhibit the true temperature of the atmosphere, but like the descent into a well, will always be colder in summer than other places. Our object has been to get the true temperature of the open air, only removing the direct glare of the sun's rays. Our fellow-citizens in distant places will perceive, I believe, by this month's report, that the city of Washington has really been one of the coolest, as well as the healthiest, residences in the Atlantic States.

"ROBERT LITTLE."

Washington City, August 1, 1825.

Communication to the Columbian Institute, on June 4th, 1827.

Having, in compliance with the request of the Columbian Institute, taken a regular series of Thermometrical Observations for the last four years, and published a monthly report of the same in the papers of this city, my attention has been much engaged to discover the simplest and most certain method of ascertaining the mean heat of the atmosphere, with the least trouble to the observer. Every one must be aware, that, to take three observations each day, for a series of years, at given hours, requires a punctuality, that few persons (however much at leisure) will perseveringly bestow on the subject. I have done this hitherto, but I have ascertained, by a very accurate and unintermitted course of four observations each day, for the last twelve months, that this is no longer necessary.

In a subsequent paper Mr. Little observes:

"The object sought for is the true mean heat of every twenty-four hours. The usual mode is to take three observations, one at 7 A. M., the second at 2 P. M., and the third at 9 P. M., and the sum of these is divided by three. The quotient, however, is not the true mean. Other modes have, therefore, been proposed, but they are attended with still more trouble, and, therefore, more objectionable. The Institute having procured an excellent day and night self-registering Thermometer, I tried with it the experiment of combining the absolute minimums and maximums of every twenty-four hours, with a third observation, taken at 9 in the evening, every day for a complete year; as well as the other observations at the usual hours. The result is, a conviction that every mode of combining three or more observations in each day, will give an average usually higher than the true mean

heat, but frequently also below it. I found that the minimum and maximum of every day, (which, with a proper thermometer, may be taken at one observation,) if added together and divided by two, will give the nearest approximation to the mean heat, that, probably, can be attained. It is of no consequence whether the time of observation, by a self-registering thermometer, be morning or evening. The observer has only to put down the minimum and maximum as the gauges indicate, and then adjust the thermometer by bringing the gauges to the extremity of the fluids in each tube, and then leave them for the next twenty-four hours. The sums of each of the two columns of figures for a whole month, divided by the number of days, and again by two, will give the mean heat of the whole month, with the trouble of only taking one observation a day. To verify these remarks, and to show how small the difference is between this easy, and the other more troublesome way of taking the observations, I have subjoined a table of the results of the two modes just described, accurately taken in the twelve months preceding the 1st of May last.

MEAN HEAT,

As taken from the average of the Maximum and Minimum of each day.			*As taken by three observations each day, at 7 A. M., 2 P. M., 9 P.M.*		
1826,	May,	73.66	1826,	May,	74.22
	June,	77.33		June,	77.38
	July,	78.50		July,	78.33
	August,	77.25		August,	77.33
	September,	72.50		September,	72.81
	October,	59.12		October,	59.33
	November,	48.75		November,	47.70
	December,	37.50		December,	36.75
1827,	January,	30.41	1827,	January,	30.50
	February,	42.50		February,	42.47
	March,	48.00		March,	47.76
	April,	60.99		April,	60.87

	Total		Total
Divide by 12)	706.51	Divide by 12)	705.45
Mean for the year,	58.87	Mean for the year,	58.78

As I am satisfied of the accuracy of these observations, and in the result it appears that in a whole year there is only 9-100ths parts of a degree difference between the modes of ascertaining the mean by the daily maximum and minimum, which requires only one observation, and that of taking three observations at specific hours, I shall, of course, in future, take the shortest and easiest course, and recommend to other reporters of similar tables to adopt the same plan.

ROBERT LITTLE.

"P.S. For those who wish to know the mean temperature at 7 A. M., by some deduction from my tables, I suggest the following rule, which will generally be found very near the truth: The temperature at 7 A. M, is about 3.50 degrees higher in the whole month than the mean of the minimum. The temperature at 9 P. M. I have found too variable and uncertain to be reduced to any fixed rule."

I have inserted the preceding observations of Mr. Little, as they contain much of the true philosophy of the thermometer, and very good rules for conducting experiments with that instrument, but it will be shown in the sequel of this chapter, that the mean temperature of Washington city, deduced with all the precautions pointed out and taken by Mr. Little, is too high. In recommending a method more easy in practice than those in common use, Mr. Little has been successful. A self-registering thermometer will no doubt answer as well, as will observations made at 7 A. M. and 2 and 9 P. M.; but both modes produce results above or below, in most cases the

former, from the real mean temperature. In fact, a great majority of thermometrical tables give the mean of the day, from 7 in the morning to 9 in the evening, or 14 hours, leaving the other 9 hours unaccounted for, and consequently the mean of the year, deduced from such data, must be evidently far above the true medium temperature.

Mr. Reuben Haines, of Germantown, near Philadelphia, has, with the true liberality of a philosopher, confided to my care and use his manuscript thermometrical notes, which were made from observations early in the morning, at noon, and late in the evening. Mr. Lewis Brantz, of Baltimore, recorded the state of his thermometer at sun-rise, and 2 and 10 P.M. In the tables of this chapter, compiled from the notes of these two latter observers, it will be seen that the respective mean temperatures are comparatively far below the other tables taken from the common methods of observation. With these precautionary remarks, I proceed to the subject matter of our inquiry, prefacing the more particular view of the United States by a general geographical sketch of the earth.

The surface of the earth is very unequally divided into land protuberances and oceanic basins. A cursory glance on a map of the world presents the land rising in two very irregular masses; but a more careful investigation leads to a discovery of a regularity of arrangement which is at once pleasing and unexpected.

The earth, moving in its orbit, with its axis inclined 23½ degrees to the plane of its motion; and that axis carried round the sun nearly parallel to itself, causes the sun's rays to fall perpendicular to the earth's surface on each side of the equator over a space equal to the deflection of its axis. This band or zone of 47 degrees in breadth, having the equator as its middle line, is called the *torrid zone*. The same cause which carries the sun's rays direct

over 23½ degrees on each side of the equator, the two polar extremities into light and d six months alternately, and to a distance of grees from each pole. These circles round tl have received the erroneous appellation of *Zones;* they are real polar circles.

Between the torrid zone, on each of its si the respective polar circles, spread real z 43° in breadth, which are called the ter zones.

The land and water are distributed in the tive zones, as exhibited in the following tab may be, however, noticed before examining bles, that the two polar extremities, as far as present a remarkable contrast; the norther veloped by land, the southern, with little ex by water.

No. XXI.—*Table of the Area of the Southern, Ind Pacific Oceans, taken together.*

				Sq
Southern and Pacific oceans included				100
Indian ocean between		40° and	60° S. lat.	7
Do.	from	30° to	40°	4
Do.	do.	20°	30°	3
Do.	do.	10°	20°	3
Do.	do.	10° S. lat to	10° N. lat.	5
Northern extension of the Indian Ocean with the Red Sea, and Persian gulf,				1,
Bay of Bengal,				
				126,

No. XXII.—*Table of the Atlantic Ocean and c Seas.*

Atlantic ocean from		S. lat. 55° to	40°	1,
Do.	do.	40°	30°	2,
Do.	do.	30°	20°	2,
				6,

Brought forward,	
Atlantic ocean from S. lat. 20° to 10°	6,904
Atlantic ocean between Cape Palmas in Africa and Cape St. Roque in South America, S. lat. 10°	2,304
Atlantic ocean from a line drawn from Cape Palmas to Cape St. Roque, and N. lat. 10°	2,500,0
Atlantic ocean between N. lat. 10° and 20°	2,500,0
Do. do. 20° and 30°	3,225,0
Do. do. 30° and 40°	3,441,0
Do. do. 40° and 50°	2,735,00
Do. do. 50° and 60°	2,030,00
Do. do. N. lat. 60°	1,505,00
Mediterranean and Black Seas,	1,616,000
Baltic and its gulfs,	735,000
Hudson's Bay,	92,000
Arctic Ocean,	250,000
	4,000,000
	33,837,000

No. XXIII.—*Summary of Oceanic Area.*

Contained in No. 21,	126,045,000
Contained in No. 22,	33,857,000
To these aggregates, add for the Caspian, great lakes of America, and other smaller collections of water,	250,000
Amount of water surface,	160,152,000

No. XXIV.—*Land Area.*

Polynesia, or Oceanica,	100,000
Austral Asia,	3,000,000
Asia,	11,500,000
Europe,	3,020,000
Africa,	8,000,000
America, Greenland, &c.	13,220,000
Amount of land area,	38,840,000

No. XXV.—*Summary of Land and Water.*

Water contained in No. 23. - - -	160,152,000
Land contained in No. 24. - - -	38,840,000
Amount of the area of the earth -	198,992,000

From the preceding elements it is seen that the land surface does not amount to the one-fourth part of the entire superficies of the earth. The subjoined tables exhibit the relative distribution of the land and water, as respects the astronomical subdivision of the earth into zones.

No. XXVI.—*Torrid Zone, contains land in*

Asia - - - - - - - - -	3,000,000
Austral Asia - - - - - -	1,000,000
Polynesia, or Oceanica - - - - -	100,000
Africa - - - - - - - - -	5,000,000
South and North America - - - -	4,500,000
Amount of land within the Torrid Zone	13,600,000

No. XXVII.—*The Land area of the Southern Temperate Zone.*

Austral Asia - - - - - - - -	1,400,000
Africa - - - - - - - - -	640,000
South America - - - - - -	1,520,000
Amount in the Southern Temperate Zone	3,560,000

No. XXVIII.—*Land area in the Northern Temperate Zone.*

In Asia - - - - - - - - -	7,600,000
Europe - - - - - - - - -	3,020,000
North America, Greenland, &c. - -	5,000,000
Africa - - - - - - - - -	2,360,000
	17,960,000

No. XXIX.—*Land area in the Northern Polar Circle.*

Asia - - - - - - - - - -	900,000
Europe - - - - - - - -	20,000
North America, Greenland, &c. - - - -	2,600,000
Amount of land in the Northern Polar Circle	3,520,000

No. XXX.—*Land area in the Southern Polar Circle.*

200,000.

The tables 29 and 30 show, in a striking manner, the very unequal distribution of land at the two polar extremities of the earth. It is even doubtful, from the present condition of geographical science, whether there is, in reality, as great an extent as 200,000 square miles of land within the Antartic circle.

The different portions of the land area of the earth, though deeply indented in their outlines, and broken into continents and islands of very unequal relative superficies, and also apparently irregular in their general arrangement, nevertheless rise from the adjacent oceans in two groups, which relatively with the Atlantic ocean may be correctly called eastern and western continents. The Atlantic deserves the distinction here given from another most important circumstance; it is the only large mass of water which reaches from one to the other polar circle, and, as will be clearly shewn, exerts an influence upon the habitable earth to an extent which has, and, as long as the present order of things continue, must control the course of human history.

The superficial area of each great land section is shewn in table 24. If we regard these sections on a map we see the largest group composed of Asia, Austral Asia, Polynesia, Africa, and Europe, spreading eastward from the Atlantic ocean, and comprising an area of 25,620,000 square miles: the lesser group composed of South America, North

America, and Greenland, extending westward fro: the Atlantic ocean over an area of 13,220,000 squa: miles.

The relative position and distribution of these tw groups and their minor parts, offer to a philosoph cal view of the earth the most interesting phenom na in physical geography, More than half of th land surface lies north from the tropic of Cance: and including the land surface in the torrid zon more than nine-tenths north from the tropic Capricorn. I have already observed that the nortl ern polar circle is chiefly land, whilst that of th south is still more exclusively an expanse of wate:

Indented as the general outline may appear, th great continents preserve a regularity of structur seldom found to prevail in nature, except in th case of planetary revolution. The following calcu lations will serve to demonstrate the actual preva lence of this admirable geographical system.

The Cape of Good Hope is at S. lat. 33° 56′ an long. 18° 23′ E. from London. Bhering's Strait i at N. lat. 66° 30′ long. 19° 1′ E. of London. A lin drawn along the surface of the earth from one c these points to the other, deflects from the meridian by an angle of 54° 20′, and is 13,857 statute miles i: length.

Cape Horn, or the extreme southern point o America, is at S. lat. 56° and long. 67° 46′ W. fron London. A line drawn between these points de flects from the meridians by an angle of 31° 38′, an within a very small fraction of 10,000 miles. Thes two lines if extended into the southern hemispher will intersect in the great southern ocean, and wil enclose all America, Europe, Africa, and the fa: greater part of Asia.

A direct line from Bhering's Strait to Cape Hor bears S. 59° W. 16,560 miles, and with the Ameri can line between the same points forms an angle a Cape Horn within 38 minutes of a right angle. Th

two continents, therefore, from Bhering's strait retire from each other very nearly at right angles. The Asiatic line from Bhering's strait in its progress south-westward traverses the peninsulas of south-eastern Asia, and crosses the equator almost exactly on the eastern coast of Africa; and thence crossing the latter continent obliquely, leaves full four-fifths of the surface and all the great mountain chains of the eastern continent to the north-west.

The two great triangles I have sketched serve to demonstrate how very nearly the two continents range at right angles to each other. The larger triangle embraces about the twelve-thirteenths of all the land of the earth.

In the formation of a sound theory of climate, the form and relative position of the parts are, however, as necessary to be understood as the position and bearing of the whole. It is worthy of serious attention that a tendency to the triangular form, with a salient point southward, and one side extending from north-east to south-west, prevails over the whole land surface of the earth, but in a particular manner in America. A glance on a general map will render this feature evident on the large scale in the case of Asia, Africa, and the two Americas; but it is equally obvious in the instances of Spain, Scandinavia, Greece, Arabia, Indostan, Malacca, Cambodia, Corea, and Kamschatka. These peninsular projections afford highly satisfactory proofs of a systematic arrangement of parts. To render this important fact in physical geography still more apparent, I have calculated the following lines of coast, and placed the results before the reader in a tabular form.

No. XXXI.—*Table of the deflection from the m and lengths, of the principal Coasts of the earth, of the range of the great continents.*

Coasts.	Bearing.
1. General course from Behring's Strait to Cape Horn, over the Pacific ocean, parallel to America	31°38′
2. Range of the continent of America from the mouth of the Unjiga to that of the Rio de la Platte	30 32
3. General course from the mouth of Sir James Lancaster's Sound, in Baffin's Bay, through Davis' Strait, and nearly touching Cape Palmas, to the Cape of Good Hope in Africa	33 42
Lines in the contrary direction.	
4. Line from Cape Tehuantepec to the southern point of the islands of Spitzbergen - - -	47 44
5. Line drawn along the south-east coast of North America, from Cape Florida to the straits of Belle Isle	35 51
6. South-east coast of South-America, from Cape St. Vincent to Cape St. Roque - - - - - -	26 30
7. Course from Cape Horn to the North Cape of Europe - -	29 00
8. Course from Cape Horn to the Northern Cape of Asia -	40 27
9. Coast of Africa and Europe, from Cape Verd to North Cape -	24 42
10. South-eastern coast of Europe, from Cape Metapan to the mouth of the Dnieper - - -	36 36
11. General range of the coasts of Africa and Arabia, from the Cape of Good Hope to Cape Ras -	30 00

Coasts.	Bearing.	Length.
12. South-eastern coast of Indostan, from Cape Comorin to the mouth of the Ganges - - -	36 39	1,172
13. Coast of Asia, from the south-eastern point of Cambodia to the mouth of the Amur - -	36 21	4,066
14. Entire south-eastern coast of Asia, from the south point of Malacca to Bhering's Strait - - -	45 00	6,266

In these examples the three first exhibit the range of America and south-west Africa, and differ from each other in their inflections to the meridians only 3° 10′. The eleven next examples deflect from the meridians in the opposite direction, or from north-east to south-west. Here it may be noticed that the individual south-east coasts, from that of North America to that of Asia inclusive, preserve a parallelism to within 23½ degrees, and what is more remarkable, that the two main and extreme coasts, at a distance of 6880 miles asunder, decline from each other only 2¾ degrees.

If examined in relation to their intersection with the different points on the earth's surface, the first of these lines, with the exception of the peninsula of Oonalaska, traverses the Pacific ocean, but parallel to the general range of America.

No. 2 leaves the mouth of the Unjiga, follows the basin of that river, and the south-western part of that of the Mississippi, crosses the western part of the Gulf of Mexico, passes obliquely over the isthmus which extends between the two Americas, intersects the equator and the western coast of South America almost at the same point, and ranges thence over the sources of the Amazon, and down the valley of the Platte to its mouth.

No. 3 demonstrates the curious fact, that the range of America and that of south-western Africa

are within a small fraction of two degrees of be parallel.

No. 4, extending from Cape Tehuantepec, of south-western coast of North America, to Sp bergen, traverses the peninsulas of Yucatan, I rida, and Nova Scotia, passing along the south-e coast of the United States and that of Greenland

Nos. 5 and 6 point out the particular bearin the south-east coast of North and South Amer which it may be observed deflect from each ot only 9° 21′.

No. 7 is a very important geographical line, shews the near approach to parallelism in the posing coasts of Europe and north-west Africa, the opposing coasts of North America.

No. 8 serves a similar purpose with No. 7, bu the latter case extending the comparison to the most northern limit of Asia. These two lines, w those along the south-east coast of North Ameri are of the utmost value as elements in the philo phy of the climates of both continents.

Nos. 9, 10, 11, and 12 were calculated to ill trate the systematic arrangement of the differ and distant sections of the earth.

Nos. 13 and 14, like 7 and 8, serve as means once to demonstrate regularity of arrangement, a to aid in the formation of a rational meteorologi theory.

Though the actual lines of contact between la and water are of most importance, there are otl features of nature the knowledge of which is ind pensable to a due comprehension of the analogies aerial revolution. It has been found from expe ment that the atmosphere decreases in temperatu according to its elevation above the general ocea level; it seems also that the atmosphere regar the laws of gravitation as well as water; therefo whether land rises rapidly into mountain peaks, *slowly and* extensively by continental table lan

the effect is the same specifically. In the elevated and extended plateaus, the sun's rays radiated, lessens in some degree the refrige occasioned by height; but on all places, at a cient elevation, vegetation is succeeded by perp frost. On the other hand, within the tropics, cannot take place where the high temperatu the oceanic level is not lessened by elevation. following table, liable (as the author acknowled to local exceptions, gives a general view of ae temperature depending on relative height, as h as N. lat. 40°.*

No. XXXII.—*Table of the height above the ocean, an mean temperature, which admits perpetual Snow.*

Northern Latitude.	Lowest height at which snow falls.	Inferior limit of perpetual snow.	Difference of the two preceding columns.	Mean temperature Fahrenheit's Thermom.
	Feet.	Feet.	Feet.	
0°	13041	15714	2673	80.6
20	9905	15088	5183	70.7
40		9840	9840	62.6

Though this table as it imports was calculated for N. lat., it will serve also to give ideas sufficiently correct for common purposes, of similar phenomena and latitudes on the contrary hemisphere. Snow, however, falls annually at the level of the ocean in the United States as low as N. lat. 35°, and occasionally as low as 30°; such again is the case on outh-eastern Asia; the causes of this seeming anomaly will be explained in the sequel.

* Humboldt's Personal Narrative, p. 119. M. Carey 15.

The laws upon which climate depends
and simple.

1. All places on the same parallel of latit
at a like height and exposure, must hav
temperature.
2. Places on the same parallel of latitu
difference of aerial temperature, if th
themselves differ in relative height, or ex
3. Difference of exposure arises from diffe
restrial inclination, proximity to, and
from, extensive bodies of land, from m
or from collections of water.
4. Mountains and oceanic collections of wa
a directly contrary influence on aerial
ture; the former tending to produce ext
cold, the latter to reduce the atmosph
uniform annual temperature.
5. The atmosphere forming a part of the
carried daily round the axis with the oth
on the earth's surface; consequently,
called wind, is a mere deviation from th
motion of the air, caused by changes of
ture.
6. Land and water being always unequal
on by an equal degree of heat, changes
rature are constantly recurring near se
and these changes are mostly in a near r
the relative extent of contiguous land an
7. The natural motion of the air being fro
E., if the earth's surface was composed o
matter, or matter reflecting the rays
equally, wind at any given place would b
in its direction, as is the case on wide oc
continents at considerable distances from
of contact between land and water.

From the preceding laws, if the mean
ture of any place can be accurately determi
of others not only contiguous, but at con
distances can be determined, by having th

and difference of elevation given. In Europe it has been shown, that a change of elevation of 338 feet or 100 metres is equal to a degree of Fahrenheit, and that a similar difference of temperature arises from a degree of latitude. Such allowances seem too artificial to be any where very correct, and are, in the United States, too small in the former and too great in the latter case; but as it is impracticable to arrive at great precision on the subject, I have used 400 feet, and one degree of latitude, as coming nearer the result of observation, than any other elements I have compared with the tables. The explanation of this principle in meteorology will be again resumed.

Having thus premised the laws on which general temperature depends, we now return to a review of the great land protuberances, and the range and mass of mountain systems. Under this head will be included, not merely those prominent ridges called mountains, but also, those extensive and elevated plateaus, or table lands, which, particularly in North America and Asia, so greatly influence the temperature of the seasons of countries lying to the south-east of them.

Each continent has a predominant system of mountains, of immense mass and length, with many minor systems and chains. If a point is chosen in Central Asia, at about 83° E. from London, N. lat. 47°, and on the sources of the Oby, a distance of about 1875 miles will reach north in the Arctic ocean, at the mouth of the Oby; west into the Caspian; south into the Bay of Bengal; and east into the Yellow Sea. This is the most remote point of land on the earth from the contiguous oceans, and spreading from it, is the most elevated and extended table land. This great plateau is surrounded by a *mountainous rim*, from which are protruded mountain chains; the Stavonoy to the north-east, terminating at Bhering's strait; the Ural stretchi

north, between Europe and Asia; the Himmelaya towards Indostan; and the chain of Caucasus towards southern Europe.

From this enormous plain, the continent of Asia slopes on every side. Its great rivers are found winding their way in immense volumes from one to two thousand miles in length, to the Arctic, Indian, and Pacific oceans. The central plateau is in great part destitute of timber, and being elevated from 5000 to 12000 feet, spreading over more than 3,000,000 square miles, is the most bleak, and, for its latitude, the most uninhabitable tract in the northern temperate zone of the earth.

A zone, bounded to the N. by the wooded mountains of Altai, and to which lat. 50° is about the central or middle line, is a timbered band, extending from Europe to the sea of Ochotsk, about from 8° to 10° of latitude wide, and followed on the north by an inclined plain, naked, level and marshy, terminating in the Arctic Ocean.

On the south east towards the Indian and Pacific Oceans, stretches from the Arabian Gulf to the sea of Ochotsk, a fine arable slope, comprising the Makran, the two Indias, China, and Mandshuria, with the Japan Isles. It is this great slope which of all others on the earth, bears in every respect the strongest resemblance to the United States.

As far to the westward as the valley of the Don in Europe, commences those steppes or arid plains, which with an almost perfect resemblance to the prairies of North America, extend to, and are lost in the desolate expanse of central Asia.

On the south-west, the desert regions of Mongolia are terminated by the fertile valleys of the Oxus and Sihon, which in turn are succeeded by the mingled deserts and gardens of Persia, and still further by the burning sands of Arabia.

Such is the vast continent of Asia, from which is protruded westward, a much broken peninsula, to

which the course of civilization has given a moral and political identity, separate from the continent of which it naturally forms a minor part. Europe is bounded south by the deepest gulf on the eastern continent, on the west by the Atlantic, and north by the Arctic Ocean.

South-west from Asia, and south from Europe, spreads the continent of Africa. Asia is cut longitudinally into two not very unequal parts, by a meridian, about 100° E. from London. Along this meridian, the continent extends on both extremes, into points, the northern reaching N. lat. 76° and the southern almost touching the equator.

If Africa and Europe are taken together, a second meridian, about 90° W. from that of Asia, will be again rendered remarkable, by salient points towards each pole. On the African and European meridian, the land stretches in continuity to the 35th S. lat.

Similar to Asia and Europe, the mountain systems of Africa are ranged, as far as known, from east to west; but as the particular geographical features of the latter are irrelevant to an explication of the climate of the United States, any further examination of its interior structure will be omitted in this view.

Westward of the Eastern continent, curves the Atlantic Ocean, the only considerable aquatic communication between the polar extremities of the earth. The Atlantic in its narrowest part between Europe and Greenland, is upwards of one thousand miles wide, and opening thence S. W. with the general range of the bounding continents, spreads under the northern tropic, to a breadth of 60 degrees of longitude or 4170 miles, without estimating the indenting of the Gulf of Mexico. Over the torrid zone, the Atlantic inflects to N. W. and S. E., again complying with the bearing of the adjacent conti

nents, which, as we have seen, correspond wi great exactness to each other.

The Atlantic Ocean and its gulfs, occupy abo the 1-7th part of the superficies of the earth, cur ing round the western, southern and northern pa of the eastern continent, from 72° of N. lat., 35° of S. lat., or through 107 degrees of latitud This immense strait is limited on the west by t most lengthened land line, extending north a south, that can be drawn on the planet. Witho including Greenland, or the unknown regions arou the northern pole, America stretches from the 72 degree of N., to the 56th of S. lat., or through 1 degrees of latitude.

From the recent discoveries made by authority the British government, Greenland may be consi ered as detached from America, and might from extent, deserve the rank of a separate section, regard to physical geography; but in disquisitio on climate, and particularly the influence it m have in modifying the prevalence of cold in wint over the United States, Greenland ought to be incl ded with the mass of North America. In realit whatever narrow inlets and islands may exist nor from North America, the whole surface of the pol circle, and far into the northern temperate zone, in winter converted into one immense sweep of i and snow. Thus extended, the continent of Ame ica reaches into a *Terra Incognita*, and is actual lost to human research.

The range and relative extent of America, ha been already stated. Beside the imperfectly e plored peninsula of Greenland, America rises fro the circumjacent oceans, by two great land prot berances, called relatively North America a South America.

South America though peculiar in some of its fe tures, bears a general resemblance in structure *its counterpart*. On the western border the And

rise into greatly elevated mountain chains, peaks, and narrow plateaus. From this protracted buttress, through 66 degrees of latitude, the rivers are poured to the east and south-east in three principal and many minor streams. Following nearly the course of the opposing Atlantic coast, a comparatively humble system of mountains stretches between the estuaries of the Amazon and Platte rivers. Taken as a whole, South America is composed of two exterior but unequal mountain walls, with an immense central valley drained by the Orinoco, Amazon and Platte rivers, the whole outline presenting a strong resemblance to that of Africa.

United to South America by a very attenuated strip, North America, similar to other large sections of the earth, projects a salient point southward, and dilates into a triangle northward. With much diversity of interior structure, the great south-eastern outline of North America conforms in its bearing to almost minute exactness with the corresponding part of Asia, whilst in regard to their respective mountain systems, the two Americas have strong traits in common. In North America, we find as in South America, two unequal systems of mountains. It remains an undecided problem, whether the great western system of mountains on the former is, or is not a continuation of the Andes of the latter continent. Leaving the question of their union or separation undetermined, a system of mountains originating on the peninsula, between the two Americas, extends in almost exact conformity to the general bearing of North America, from Tehuantepec to the Arctic Ocean. Rising in Mexico, into vast volcanic peaks, and stretching across the territory of the United States in elevated lateral ridges, this system is known by various names. In Mexico it is designated Anahuac; in the United States, the Rocky mountains; and in the still more north-western extension, the Chippewayan range. The

height of this vast system, except in the vicinity of Mexico, has never yet been ascertained, but from the length of the rivers flowing from its base, that base cannot fall short of 5000 or 6000 feet. Whatever may, however, be its relative height, this system traverses the whole continent of North America, from the Gulf of Mexico into the Frozen Ocean, dividing it into two unequal inclined plains. The plain towards the Pacific, from one hundred to a thousand miles wide, is drained by two main rivers the Columbia and Colorado, with numerous smaller streams.

North-east from the principal system of its mountains, North America is again very unequally subdivided by another system, the Appalachian. The latter, although in every respect comparatively humble when compared with the stupendous systems of Asia, Africa, the Andes or Chippewayan, gains an intense interest in the United States from local position. Conforming like the secondary system of South America, to the opposing Atlantic coast, the Appalachian, composed of lateral chains, extends in broken fragments from near the Gulf of Mexico, towards, and approaching that of St. Lawrence, with a height from 600 to 6 or 7000 feet.

The two North American mountain systems, range at very nearly right angles to each other, leaving between them the vast central basin of the Mississippi. The basin of that river expanded as it is, however, forms only the principal section of an interior valley, terminating south-eastward in the Gulf of Mexico, north-westward in the Arctic Ocean, north-eastward in Hudson's bay, and eastward by the Appalachian system of mountains.

Thus, if taken into one point of view, North America is composed of two unequal slopes, falling from its mountain systems towards the Pacific and Atlantic oceans, each of the slopes having an extent *in a near ratio* with the mountain mass from which

it depends. The wide intervening valley occupies next after the western slope, the far larger part o the continent, stretching from the Gulf of Mexico, to the Arctic Ocean, and itself again composed of two inclined plains, sloping from the two mountain systems. As is the case in respect to the two exterior ocean slopes, the extent relatively of the two interior plains corresponds to the size of the mountain masses. That falling from the Chippewayan drained by the western confluents of the Mississippi and Saskatchewaine and the entire streams of the Unjiga, is upwards of three thousand miles in length, and averages from 500 to more than one thousand miles wide, covering at least 2,500,000 square miles, and varying in elevation from the oceanic level to 8 or 10 thousand feet.

The eastern or Appalachian slope, descending from the latter system, is from south-west to north-east, about 1000 miles, with a mean width of 300, extending over at most 300,000 square miles. If these comparative estimates are correct, the two sections of the great central valley of North America, differ in area rather more than 8 to 1. The wide disparity of superficies is not, nevertheless, the most important contrast presented by the two interior inclined plains. When the cultivation of North America by Europeans was commenced, a dense and continuous forest of excessively heavy timber spread over and around the Appalachian system of mountains. This great forest extended from the Gulf of St. Lawrence to that of Mexico, and from he shores of the Atlantic Ocean, beyond the main olume of the Mississippi. This ocean of woods, ill in the far greater part existing, may be considered as about 2000 miles in length, with a mean eadth of 1000, and comprising 2,000,000 of square les, and limited either by the Atlantic ocean, the ulf of Mexico, or by naked interior plains.

The western slope of the interior valley of Nort America with a considerably greater extent tha the Appalachian forest, is with partial exceptio composed of naked plains, bearing all the charac teristic marks of the steppes of Asia,* and havin a still more close resemblance in relative geographi cal position.

It is commonly, but very erroneously supposed that the prairies of America are level or nearly s This is far, however, from being their general physi ognomy. In Louisiana the prairies are indeed lev plains, but in the great western territory exhib much diversity of surface and of soil, from alluvi flats to rugged mountain chains; and such are als the steppes of Asia.

We have now briefly sketched the outlines those parts of the earth, and those laws of meteo ology which are necessary to a development of th particular climate of the United States, and procee to their application.

It has been already premised, that the natur motion of the atmosphere was that of the eart round its axis. The earth revolves round its axi once in 24 hours, very nearly; consequently, 15 de grees of its meridians are moved in an hour of tim The maximum of motion being at the equator, les sening along the meridians, and becoming nothin at either pole. The following table shews the hou ly motion of the curves of latitude, at each 10 de grees from the equator.

* Tooke's Russia, London 1800. Vol. I. page 74.

[o. XXXIII.—*Table of a Degree of Longitude, and the hourly motion round the axis of a particle of matter on each 10th degree of Latitude, from the Equator to either Pole.*

Degrees of Latitude.	Breadth of a degree of Longitude.	Hourly motion in miles.
0	69.7	1036
10	67.95	1019.2
20	64.84	972.6
30	59.75	896.25
40	52.85	792.75
50	44.35	665.25
60	34.50	517.50
70	23.60	354
80	11.98	180
90	00.00	000

From this table it is seen, that on latitude 40°, :arly the middle latitude of the United States, ırticles of matter are carried round the earth's :is, 792¾ miles hourly. Besides the aquatic, the .rth is enveloped by an aerial ocean of great depth, ıd composed of matter liable to indefinite expan- ɔn and contraction, from heat and cold. It is usual regard the atmosphere, as a mere adjunct, when timating the size of this globe, though, in either a :ographical or philosophical view, the aerial, as ımpletely as the aquatic ocean, is a part of the pla- :t, and if so, both are carried round the axis with .e decumbent nucleus. This motion on the equa- r, is more than twice the velocity of a cannon ball, ıd exceeds that projectile to above lat. 50°. By .e inherent laws of gravitation, if any, the least re- rdation is produced on the aerial or fluid masses, the direction of their common motion, a counter ırrent must be produced.

"When we cast an eye over the Atlantic, or that

deep valley which divides the western coasts of Eu rope and Africa, from the eastern coasts of the Ne Continent, we distinguish a contrary direction in th motion of the waters. Between the tropics, esp cially from the coast of Senegal to the Caribbea sea, the general current, that which was earlie known to mariners, flows constantly from east to we *This is called the Equinoctial Current.* Its mea rapidity, corresponding to different latitudes, is th same in the Atlantic and Southern ocean, and ma be estimated at 9 or 10 miles in 24 hours; cons quently from 59 to 65 hundredths of a foot ever second of time."*

This great observer, subjoins to the above, in note:

"In comparing the observations which I had o casion to make in the two hemispheres, with tho which are laid down in the voyages of Cook, L Perouse, D'Entrecasteaux, Vancouver, Macartne Krusenstern, and Marchand, I found that the swif ness of the general current of the tropics, vari from 5 to 18 miles in 24 hours, or from one third one and two tenth feet per second."

Comparing the two following documents with th accompanying chart, will enable the reader to trac the course of the Equinoctial current, and that fro the ship Ospray, the line of separation of the tw great masses of this ocean flood.

FROM LATE LONDON PAPERS.

Currents of the Ocean.—By the kindness of a frien (says the Glasgow Courier,) a document has bee put into our hands, which was enclosed in a bott and thrown into the sea just twelve months ago. was taken up on the shores of Martinique, on th 4th of February last. The bottle had thus trave

* Humboldt. Personal Narrative, page 63.

led a distance of 2500 miles in about ten months, 250 miles per month, or 8 miles per day. We give a copy of this instructive document, with the notice subjoined:

"The bottle which contains this card was thrown into the sea in lat. 5° 12′ S., long. 24° 40′ W., at noon on the 29th day of March, 1820, from the ship Ospray, of Glasgow, which sailed from Greenock on the 20th of February, on a trading voyage round the world. Whoever finds this, is requested to insert a notice of the time and place in some literary or political publication, with the view of establishing facts relative to the currents of the ocean. All well."

This bottle was found on the 4th of February, 1821, near the eastern point of the Salines Quarter of St. Ann's, Martinique, in the best order, as will be seen by this paper which it contained.

St. Pierre, Martinique, 13*th Feb.*, 1821.

Signed, T. BOURANT,

Printer and Director of the General Post Office, Martinique.

Poulson's Daily Advertiser, May 16*th*, 1821.

Currents of the Ocean.—About ten days ago, a bottle was picked up by Mr. Samuel Knowles, on the N. E. side of Eleuthera, in about lat. 25° 30′, and long. 76° 20′, containing a slip of paper, on which was written—"United States' frigate, Congress, May 24, 1821. Homeward bound from China. Lat. 27° 51′ N., long. 66° 50′ W. All well.

J. H. S.
E. P."

Freeman's Journal, 22*nd February*, 1822.

If the reader will turn to the small chart appended to this view, and suppose the whole surface in motion eastward, and at the same time reflect, that the real motion to the east must produce an apparent

motion of the sun in a contrary direction, and t
this solar motion is even at its minimum over
tropics, upwards of 950 miles hourly, he will
once perceive another cause of retrograde ae
motion. It will be obvious that a vacuum must
produced in the atmosphere, immediately under
sun, and that this rarefied body must be remo
westward. It is this aerial current which has
ceived the appellation of Trade Wind *(Le V*
Alizé of the French).

The two currents of the water and air movin
the same direction, the inequalities in the motio
that of the ocean, there is little doubt, are in gr
part the effects of unequal intensity in that of
atmosphere. Both acting, however, in aid of e
other, are, though irregular in their rate of mot
constant in their direction, and combine to prod
one of the most remarkable amongst the phenom
of physical geography.

The western equinoctial current is felt, tho
feebly, as high as N. lat. 28°, and about as far so
though it must be in excess along the equator. T
eastern salient point of South America, being
wards of 6° of S. lat., the great mass of ocean fl
is unequally divided. South from Cape St. Roq
the current is turned down the coast of South Ar
rica, and between S. lat. 30° and 40°, reacts
wards Africa.

North from Cape St. Roque, the coast of So
America bends to a general course of N. 62° W
and with the Caribbean sea and the Gulf of Me
co, maintains that direction to the mouth of the
Grande del Norte, 2560 miles. Along this co
the equinoctial current is inflected northward,
augmented by constant accumulations from the e
The whole body pouring through the various in
between the Windward Islands of the West Indi
into the Caribbean sea, and thence, between C
and Yucatan, into the Gulf of Mexico. In the lat

reservoir it has reached its utmost elevation, and again rushes out into the Atlantic ocean through the Cuba, and Bahama or Florida channel, and sweeping along the coast of the United States and Nova Scotia, about N. lat 50° meets the Arctic currents from Davis' Straits; and from the Northern Atlantic ocean, is turned towards Europe and north-west Africa, and is finally merged in its original source within the tropics. To this oceanic river has been given the name of GULF STREAM. It is the second most extensive, and much the most strongly marked whirlpool on the globe, having an outline of about 15,000 miles.

The mean motion of the Gulf Stream is no doubt changeable, even at the same points; its periodical revolution has been found about 2½ years, and the maximum of motion in the Bahama channel. M. Humboldt notices this phenomena thus: "In the Florida channel, I there observed in the month of May, 1804, in the 26th and 27th degrees of latitude, a celerity of 80 miles in 24 hours, or five feet every second, though at this period the north wind blew with great violence. At the end of the Gulf of Florida, in the parallel of Cape Cannaveral, the Gulf Stream or current of Florida, runs to the north-east. Its rapidity resembles that of a torrent, and is sometimes five miles an hour."*

Such a mass of ocean water flowing constantly from the torrid zone towards the northern pole, and at any given latitude, heated many degrees above the temperature of the adjacent ocean, must exert great influence on the atmosphere. This influence is made manifest by the following table:

* Personal Narrative, page 65.

No. XXXIV.

Table of Temperature of the Seas in both Hemispheres.

Latitude.	Longitude from London.	Period of the observation.	Temp. of the ocean at its surface.	Oceans.	Names of the observers.
3°53′N	90°26′W	Feb. 1803	83°.6	S. Sea	Humbt.
3 16 S	86 23 W	Jan. 1803	80.6		Idem.
4 8 N	22 54 W	Oct. 1788	81.5	Atlantic	Churruca
3 44 S	28 10 W	Nov. 1788	80.6		Idem.
4 36 N	53 50 E	May 1800	81.7	Ind. Sea	Perrins
4 44 S	24 51 W	April 1800	79.5	Atlantic	Idem.
11 12 N	37 34 W	April 1800	80.8	—	Quevedo
11 32 S	29 41 W	March 1803	80.6	—	Idem.
11 58 N	25 46 W	March 1800	73.8	—	Perrins
12 30 S	27 20 W	April 1800	78.4	—	Idem.
15 24 N	39 44 W	April 1803	74.8	—	Quevedo
15 50 S	30 34 W	March 1803	79.9	—	Idem.
23 0 N	26 50 W	March 1800	69.8	—	Perrins
23 40 N	41 6 W	April 1803	71.8	—	Quevedo
22 52 N	22 13 W	June 1799	68.0	—	Humbt.
23 28 S	29 40 W	April 1800	75.9	—	Perrins
23 30 S	50 10 E	May 1800	71.6	Ind. Sea	Idem.
31 6 N	79 37 W	May 1804	70.7	Atlantic	Humbt.
31 22 N	15 7 W	Oct. 1788	74.5	—	Churruca
31 58 N	20 10 W	March 1800	63.9	—	Perrins
31 30 N	38 45 W	April 1803	69.3	—	Quevedo
31 34 S	28 29 W	March 1803	75.7	—	Idem.
31 0 S	26 20 W	April 1800	68.9	—	Perrins
31 34 S	46 56 W	Nov. 1788	68.9	—	Churruca
31 4 S	47 40 E	May 1800	66.9	Ind. Sea	Perrins
36 38 N	41 2 W	May 1803	66.7	Atlantic	Quevedo
36 5 N	76 41 W	May 1803	68.0	—	Humbt.
36 4 N	17 5 W	June 1799	59.4	—	Idem.
33 16 N	10 24 W	Oct. 1788	72.3	—	Churruca
35 22 S	50 32 W	Nov. 1788	63.0	—	Idem.
36 3 S	17 8 W	April 1800	65.8	—	Perrins
36 5 S	41 58 W	May 1803	68.0	—	Quevedo
33 52 S	94 52 W	Feb. 1803	71.6	S. Sea	Idem.
40 28 N	33 35 W	May 1803	62.8	Atlantic	Idem.
40 30 N	68 36 W	July 1804	65.7	—	Humbt.
42 34 N	15 45 W	Feb. 1800	57.6	—	Perrins
42 30 S	*50 30 W*	March 1803	55.8	—	Quevedo
40 36 S	*48 20 W*	March 1803	59.9	—	Idem.
40 48 S	*93 56 W*	Feb. 1803	62.6	S. Sea	Idem.

ı the progress of our meteorological survey, we l find some remarkable contrasts between the ɔerature of the waters of the Atlantic Ocean, and of the atmosphere of the United States, on si- r latitudes. Table No. 34 was extracted from vster's Encyclopœdia, article Navigation, and compiled for that work, from Humboldt, and it been accompanied by a table of prevalent .s, the two taken together would have been in- able; but as it is, though confined to the tempe- re of the ocean water, the data are powerful in fixing the basis of a true theory of general ate. I have already premised, that to compre- l the aerial revolutions of any one portion of the ı, its meteorology must be taken in connexion that of adjacent regions. It is for these consi- tions, and to afford points of comparison, that I ede the particular tables on the United States, eneral tables of temperature on and near the ɜrn margin of the Atlantic ocean.

KXXV.—*Table of the monthly mean temperature at nta Cruz, in the Island of Teneriffe, N. lat.* 28° 27′, *g.* 16° 26′ *W. from London,* 60° 29′ *E. from W.* , *by Don Francisco Escolar, from May* 1808, *to Aug.* 10.

	Reaumur.	Fahrenheit.
ary	14.15	63.07
uary	14.35	64.03
h	15.63	67.01
l	15.70	67.02
	17.83	72.01
	18.62	73.08
	20.12	77.02
ıst	20.84	78.09
ember	20.19	77.04
ber	18.96	74.05
ɜmber	17.08	70.04
ɜmber	15.03	65.09
n of the year	17.39	70.83

During the summer months, the climate of the Canaries is assimilated by the winds to the region of the tropics. From April to October, the north-east Trade wind prevails uninterruptedly. During the remaining months, it partakes of the character of the zone without the tropics by the general prevalence of south-westerly winds.*

If we compare the elements in table 38, page 370, with the note to No. 35, it must be evident that the south-west and north-east winds are real monsoons. M. de Vassalli attributed the course of prevalent winds at Turin, to the course of the Po, at that city; but when we take the Turin table and compare it with other tables in this chapter, it cannot be rationally doubted, but that south-west and north-east winds depend, for their predominance, upon some cause more general than mere locality of surface. These winds alternate, at not very variable periods, from the Gulf of Mexico, in America, to Turin, Paris, London, and into Eastern Europe.

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* Quarterly Journal of Science, April, 1808.

XXVI.—*Table of the temperature of Air over, and 'er of, the Gulf Stream, from observations made by . Hamilton.* See Table XXXVII. A. P. Transac-, New Series, Vol. II. page 145.

onth.	N. lat.	W. long from London.	Long. from W. C.	Tem. of air.	Tem. of watr.
21	32° 15′	77° 18′	00° 23′ E.	70	72
ary 15	32 40	78 09	1 14 W.	65	71
22	34 16	75 07	1 48 E.	61	71
nber 5	34 42	69 38	7 17	79	81
6	35 58	71 05	5 50	76	78
er 23	35 38	73 23	3 32	63	73
nber 28	36 50	66 57	9 58	67	77
3	36 40	72 11	4 44	69	72
	36 49	71 42	5 13	68	74
29	37 39	67 20	9 35	60	71
nber 26	37 42	71 07	5 47	67	73
29	37 27	64 02	12 53	65	76
	37 54	68 00	8 55	54	70
nber 23	37 22	70 10	6 45	53	72
24	37 39	69 00	7 55	67	72
25	37 56	67 00	9 55	63	69
0	37 36	68 42	8 13	71	73
nber 21	37 49	63 45	13 10	59	63
22	37 47	60 10	16 45	62	63
23	37 54	56 15	20 40	60	63
er 31	37 34	61 39	15 16	71	70
	37 49	68 58	7 57	53	67
	37 34	66 59	9 56	55	68
	37 52	64 24	12 31	57	67
30	38 04	64 23	12 32	69	70
mber 30	38 05	62 00	14 55	69	77
	38 02	61 15	15 40	61	69
	38 09	57 50	19 05	68	69
nber 26	38 30	64 21	12 34	59	70
27	38 26	61 33	15 22	61	70
1	38 25	62 00	14 55	65	70

TABLE XXXVI.—*Continued.*

Month.	N. lat.	W.long. from London.	Long. from W. C.	Tem. of air.	Tem of watr.
June 2	38° 20′	59° 36′	16° 19′ E.	64°	69°
3	38 28	58 23	18 32	65	72
July 27	38 30	68 26	7 29	72	72
June 10	38 40	65 35	10 20	70	73
11	38 43	61 35	5 20	71	71
November 1	38 54	57 46	19 09	71	71
5	38 52	52 22	24 33	67	68
December 1	38 03	67 17	8 38	60	68
October 1	39 13	58 13	18 42	71	76
February 21	39 01	53 10	23 45	54	64
December 28	39 02	57 07	19 48	63	66
29	39 34	54 46	22 09	57	67
June 7	39 37	48 41	26 14	69	71
July 29	39 02	66 51	10 04	73	70
30	39 12	69 44	7 11	75	73
31	39 41	63 39	12 16	77	74
October 7	39 14	48 54	26 01	57	67
March 17	39 59	58 00	18 55	57	58
May 24	39 57	61 03	15 52	65	68
November 4	39 06	52 30	24 25	66	68
October 2	40 06	56 37	19 18	69	70
3	40 45	56 22	20 33	62	70
July 31	40 39	41 35	35 20	75	75
August 1	40 06	42 56	33 59	75	77
2	40 15	43 43	33 12	76	76
3	40 49	45 05	31 50	76	76
1	40 20	60 32	6 23	77	76
2	40 52	57 19	18 36	74	72
29	40 27	64 23	12 32	64	73
30	40 06	65 03	11 52	67	73
31	40 58	65 56	10 59	70	70
September 1	40 33	67 11	9 44	69	71
October 13	40 46	65 09	10 46	55	69
14	40 42	65 29	11 26	59	73
July 1	41 20	57 22	19 33	64	74
October 4	41 14	53 57	22 58	66	71
16	41 10	41 07	35 48	60	65
September 16	41 41	54 51	22 04	70	75

XVII.—*Table of the prevalent winds over the North ntic Ocean, from observations made by John Hamil- luring 26 voyages made to and from Europe, prin- ly between Philadelphia and Liverpool, between the 1799 and 1817, inclusive.* American Philosophi- Transactions. New Series, Vol. II. page 140.

Month.	No of Yrs. of observation.	No. of Days.	W.	N.	S.	E.	Variable.
ary	5	98	45	20	8	15	10
uary	5	135	69	13	19	22	12
h	10	198	105	22	19	38	14
l	9	234	150	31	11	25	17
	11	264	132	27	22	64	19
	6	172	88	8	23	33	20
	7	125	70	12	12	21	10
ıst	9	223	129	18	16	29	31
ember	7	159	75	28	10	28	18
ber	4	144	83	14	5	26	16
mber	5	98	60	6	5	23	4
mber.	8	179	95	9	17	37	21
			1101	208	167	361	192
ced to proportions of 0.			542	102	82	177	94
			1000	1000	1000	1000	1000

n table 37 it appears that on the open Atlantic , between America and Europe, and between 35 and 55, western winds prevail more than ıe year. In the composition of the table, all nds between N. N. W. and S. S. W. inclusive, led westerly; and those from the other points compass are named from the cardinal points *nilar manner*. This table supplies the defi- *of the winds* in table 34.

No. XXXVIII.—*Table of the mean temperature and prevalent winds at Turin, Italy, on the left bank of the Po, 7° 45′ E. from London, N. lat. 45° 04′; 839 feet above the Mediterranean: from observations made by Vassalli Eandi and inserted in the Transactions of the Royal Academy of Turin.*

Year.	Mean Temp.	N. E.	N.	N. W.	W.	S. W.	S.	S. E.	E.
1809		343	81	41	46	344	86	71	89
1810		372	67	58	51	359	52	69	69
1811		325	78	43	62	368	88	52	79
		1040	226	142	159	1069	226	192	237
	Mean of 3 years.	346⅔	75⅓	47⅓	53	356⅓	75⅓	64	79
	Reduced to proportions of 1000.	313.2	68.6	61.6	48	311.2	69	58.6	71

The city of Turin is situated in one of the deep river vallies of northern Italy, having the Appenine mountains south and south-east, and the massy system of the Alps sweeping round from the Appenines, first north and then east; the two systems enclosing

the city on three sides, leaving it only open to the east by the valley of the Po. The infrequency and very nearly equal quantity of north and south winds are remarkable in almost every one of the tables in this chapter; tables representing the winds from the central and western regions of North America, 50° W. of W. C. as far as the city of Turin, 7° 45′ E. from London, 84° 40′ E. from W. C., or through 134° 40′ of longitude, with the Atlantic ocean, and the Chippewayan, Appalachian, Pyrennean, and Alpine systems of mountains intervening.

"On the north-east coast of Asia, the prevailing wind is from the west," says Professor Playfair, in the Introduction to his Geography. "In Great Britain, the south-west is by far the most frequent wind. In April, May, and part of June, the east wind is common, especially on the east coast of the island. In Ireland, the south-west and west are the Trade winds. On the south-east of Europe, the most frequent winds are the north, north-east, and north-west. In the interior parts which are contiguous to the Atlantic ocean, the south-west wind is frequent, but in Germany eastern breezes prevail." It will appear from comparing the elements in table 38, with those of other tables in this chapter, that Turin is about the point in Europe, where the western winds are nearly balanced by currents from the great plateau of Asia; and it will appear also, that the winds of Turin cannot be very sensibly influenced by local causes, as, if so, the prevalent winds must have been at that city, from the cold region of the Alps, towards the warm bosom of the Mediterranean. In reality, the conformity of the aerial currents over so great, and so diversified a surface, as that from the mouth of Columbia, to the sources of the Po, is amongst the most interesting, and as far as the elements in these tables are correct, one of the most *decidedly* established facts in the sciences *of geography and meteorology*.

No. XXXIX.—*Table of the prevalence of western winds at Paris.*

	1816	1817	1818	1819	1820	1821	1822	1823	1824	1825	1826
January	16	16	22	18	11	11	21	7	17	12	4
February	17	24	11	22	7	3	10	19	12	15	14
March	16	17	24	17	12	21	19	20	15	10	9
April	12	10	9	12	13	11	12	14	16	13	21
May	18	17	11	13	17	21	12	15	18	14	13
June	20	19	16	21	19	14	15	19	11	14	8
July	20	27	15	12	20	26	24	25	16	10	17
August	18	19	18	13	20	20	22	20	20	22	13
September	16	8	16	15	15	23	15	16	13	17	17
October	13	6	6	16	16	19	13	15	12	18	17
November	14	18	15	16	9	19	21	9	22	23	17
December	18	14	4	17	13	19	5	23	27	15	19
	198	195	167	192	172	211	189	202	201	183	169

No. 39 was constructed from the Meteorological tables in *Les Annales de Chimie et la Physique*, and show, that at Paris, during 3996 consecutive days, the winds from the western side of the meridian amounted to upwards of one half, and in several years to above four-sevenths of the whole aerial currents. Are not the orchards of France, similar to those of the United States, inclined to the eastward?

XL.—*Table of the mean temperature, and comparative number of days of the year, on which the winds W. of the Meridian prevail at London, compiled from the Transactions of the Royal Society.*

Years.	Mean Temperature.	Winds W. of the Merid. prevailed, Days
1800	50.5	136
1801	51.3	151½
1802	50.0	167½
1803	50.5	151½
1804	51.8	126
1805	50.0	138½
1806	52.8	154½
1807	50.7	197½
1808	50.5	160½
1809	50.6	148½
1810	51.5	158½
1811	52.7	139
1812	49.2	163
1813	49.7	163½
1814	48.2	143
1815	51.6	180
1816	49.4	149
1817	50.3	199
1818	53.1	141½
1819	51.9	182
1820	49.9	174
1821	52.0	193
1822	53.8	178
1823	51.4	187
1824	52.8	189½
1825	54.0	180½
1826	50.9	97½
Mean.		161½ nearly.

No. XLI.—*Table of the monthly prevalence of Westerly winds in Northamptonshire, England, from a mean of* 12 *years,* 1816 *to* 1827, *inclusive.*

	1816	1817	1818	1819	1820	1821	1822	1823	1824	1825	1826	1827
January	19	21½	25	18½	17½	18½		7	27½	24½	15½	22½
February	20½	26	15	19½	14			18	10	19	20½	9½
March	15	26	24½	22½	18	23		20½	20½	21½	14½	27½
April	12½	14	9	13	17	21½		15	16	14	26½	12½
May	14½	15	10	13½	22	21½		17½	15	10	3	16½
June	17½	19	19	26½	24		11	21½	6½	21		22½
July	18½	26	20½	15½	15		20	27½	22½	11		20½
August	23	24	18½	12½	27½		27	23½	20½	18½		16½
September	16	12½	17	16½	18		13½	22½	22½	20½	14	11½
October	13½	10	13½	20	19		14	18	18	23½	22	12
November	20	21	13	20	12½		22	21½	25	28½	18½	21½
December	20	20	12	19			11	28	30	22½	18½	25
	210	235	197	217				240½	234	234½		218

The winds included in this table, are those west of the meridian; the observations were made at Althorp, the seat of Earl Spencer, in Northamptonshire, England, about N. lat. 52½°, and considerably east of the centre of the kingdom, and even thus far removed from the Atlantic coast, the winds from the west prevail 61 days in 100, from a mean of the 8 years in the table, for which the monthly observations are complete. Comparing the elements in table 40 and 41, we find that western winds are much more prevalent in the centre of England than at London, but a mean of both tables gives to the three western winds a prevalence of more than half the year, or the western appear to be to the whole, as 52½ to 100. The excess coming from three, out of eight points.

The reader will remember, from page 334, that discredit has been thrown upon the meteorological observations made by the Royal Society of London; but the objections were made in a particular manner to the thermometrical results arising from improper mode and manner of conducting observations with that instrument. The prevalent winds being determined from instruments absolutely exposed to open air, and less exposed to local influence, may be considered as entitled to full credit, and deserve confidence the more, as coinciding with the great results of similar data on both continents. Comparing however the mean temperature of the London table, No. 40, with Haines's and Brantz's tables, Nos. 51, page 389, and 57, page 395, I am strongly disposed to consider the strictures on the data from which the former was derived, as much too severe.

No. XLII.—*Table of the mean temperature and prevalent winds at several of the United States' Military Posts, extracted from Dr. Lovell's Register.*

PLACES OF OBSERVATION.	THERMOMETER.				WINDS.							
	Aggreg. of mean temp.	Highest deg.	Lowest deg.	Range.	N.	N.W.	N. E.	E.	S. E.	S.	S. W.	W.
					Days.	Days.	Days.	Days.	Days.	Days.	Days.	Days.
Fort Brady	41.37	90	—33	123	1.74	4.77	1.05	2.24	7.24	2.60	2.27	8.24
Fort Snelling	45.00	96	—29	125	2.88	7.13	2.33	1.16	4.02	3.52	6.05	3.24
Fort Sullivan	42.44	94	—19	113	3.26	6.89	2.04	2.08	0.79	7.02	3.68	4.77
Fort Howard	44.50	100	—38	138	0.70	0.70	11.52	0.19	0.08	0.39	16.04	0.78
Fort Crawford	45.52	96	—28	124	5.58	7.12	1.04	0.29	4.12	5.70	3.04	1.58
Fort Wolcott	51.02	88	— 1	89	3.04	6.54	3.37	0.66	2.68	2.00	10.06	1.83
Council Bluffs	50.82	108	—21	129	5.89	4.52	2.12	1.83	4.02	7.39	3.06	1.60
Fort Columbus	52.82	104	— 3	107	0.72	9.02	3.49	0.87	4.04	3.91	6.29	2.06
Fort Mifflin	55.28	96	6	90	0.50	6.37	4.54	0.74	6.20	1.24	8.20	2.62
Fort Severn	57.40	92	8	84	3.08	6.00	4.00	2.00	3.33	6.91	2.16	2.33
Washington	56.56	95	10	85	2.62	7.47	4.97	1.05	3.19	2.66	7.63	0.74
Fort Johnston	66.68	92	26	66	8.79	3.29	1.31	1.60	0.64	8.97	1.56	4.24
Fort Moultrie	64.49	92	19	73	1.78	1.15	6.85	3.80	5.59	5.07	4.41	1.73
Cant. Jessup	68.31	97	7	90	2.38	2.99	4.38	3.80	7.05	3.28	4.55	1.97
Baton Rouge	68.07	99	18	81	4.58	3.00	2.50	2.67	5.00	4.84	4.75	3.08
Cant. Clinch	68.77	95	11	84	2.05	4.10	4.13	1.47	7.11	2.05	8.67	0.80
St. Augustine	72.23	94	42	52	1.08	2.91	12.50	1.75	7.50	0.75	2.50	1.41
Cant. Brooke	72.37	92	40	52	0.16	4.00	7.08	3.00	4.58	2.83	6.25	2.50

III.—*Table of the weather as observed at ıl of the United States' Posts, from Dr. 'l's Register.*

S OF OB-ATION.	Prevailing winds	WEATHER.				Prevailing.
		Fair.	Cloudy.	Rain.	Snow	
		Days.	Days.	Days.	Days.	
rady	W.	13.30	3.27	7.83	6.02	Fair.
ıelling	N. W.	16.94	5.50	5.77	2.22	Fair.
ıllivan	S.	17.91	9.39	2.31	0.81	Fair.
oward	S. W.	15.47	7.98	4.56	2.42	Fair.
rawford	N. W.	16.80	6.29	3.87	1.33	Fair.
'olcott	S. W.	15.31	8.16	5.94	1.02	Fair.
l Bluffs	S.	19.68	6.54	2.95	1.25	Fair.
olumbus	N. W.	20.41	3.56	5.47	0.98	Fair.
ifflin	S. W.	21.20	5.12	5.20	0.41	Fair.
evern	S.	19.67	4.50	5.08	1.17	Fair.
ıgton	S. W.	17.30	6.05	6.44	0.63	Fair.
ohnston	S.	16.87	7.60	5.85	0.12	Fair.
oultrie	N. E.	22.89	2.48	5.00	0.02	Fair.
essup	S. E.	18.63	4.49	7.25	0.05	Fair.
Rouge	S. E.	20.16	4.08	6.16	.	Fair.
. Clinch	S. W.	18.69	2.27	9.46	.	Fair.
gustine	N. E.	20.66	3.91	5.83	.	Fair.
Brooke	N. E.	18.16	3.91	8.33	.	Fair.
' of 'ral 1822	N.	18.90	5.03	5.63	0.85	Fair.
1823	S. W.	16.48	6.16	5.98	1.77	Fair.
1824	S.	17.55	5.03	6.29	1.49	Fair.
1825	S. E.	16.91	5.67	6.49	1.32	Fair.
ERAGE	S. W.	17.46	5.47	6.10	1.36	Fair.

No. XLIV.—*Table of the prevalent winds* [illegible] *North American Polar sea, as reported in* [illegible] *Parry's second voyage.*

	N.E.	N.	N. W.	W.	S.W.	S.	S
1821, June	2	1	2	3	12	1	
July	5	6	6	2	4	1	
August	5	0	14	3	13	1	
September	2	0	10	1	7	3	
October	10	2	10	0	2	0	
November	8	5	6	3	2	1	
December	1	5	17	0	1	0	
1822, January	2	3	20	3	0	0	
February	1	3	23	0	1	0	
March	3	4	18	2	3	0	
April	5	3	8	2	5	1	
May	6	2	14	3	4	0	
June	3	2	7	3	5	2	
July	5	3	11	1	1	5	
August	4	2	14	2	4	0	
September	4	1	5	3	10	0	
October	9	2	9	0	0	2	
November	1	2	17	6	2	0	
December	3	2	13	8	4	0	
1823, January	4	7	14	1	1	1	
February	4	4	18	2	0	0	
March	1	6	16	6	2	0	
April		4	17	3	4	1	
May	4	2	9	3	5	3	
June	2	7	13	2	3	2	
July	2	3	7	1	0	0	
August	5	2	9	1	2	3	
September	5	3	7	3	5	1	
	10[illegible]4	86	336	68	112	28	
Propt'ns. of 100	0,12[illegible]22	100	394,25	79,75	132	33	

mean temperature of various places in the United States.

NAMES OF PLACES.	Height above the oceanic level.	Latitude.	Longitude from Washington City.	THERMOMETER. Highest.	Lowest.	Range.	Mean Temperature.
Fort Brady near Falls of St. Mary, Mich. Ter.	595	46°39′	7°48′ W.	90	—33	123	41°37′
Fort Howard, southern extremity Green bay, do.	600	44 40	10 00 W.	100	—38	138	44 50
Fort Crawford, on Mississippi, Prairie du Chien,	580	43 03	13 58 W.	96	—28	124	45 52
Fort Snelling, near junc. St. Peter's & Missis. riv.	780	44 53	16 13 W.	96	—29	125	45 00
Council Bluffs, on Missou. above m'th Platte riv.	800	41 25	18 48 W.	108	—21	129	50 82
New Harmony, Wabash, Indiana, *Dr. G. Troost*,	340	38 11	10 50 W.	96	— 5	101	66 74
St. Louis, on Mississippi, Missouri, calculated,	350	38 46	12 58 W.				55 86
Cincinnati, on Ohio, state of Ohio, *Dr. D. Drake*,	30	39 06	7 25 W.	98	—18	116	53 56
Philadelphia, by James Young, mean of 20 years,	30	39 57	1 47½ E.	98	— 2	100	58 41
Germantown, by Reub. Haines, mean of 9 years,	200	40 03	1 45 E.	96	—10	106	52 3
Fort Mifflin, in the Delaware, 6 miles bel. Phila.		39 52	1 43 E.	96	+ 6	90	55 28
New York Harbour, Fort Columbus,		40 42	2 53 E.	104	— 3	107	52 82
Newport Harbour, Rhode Island, Ft. Wolcott,		41 30	5 37 E.	88	—19	89	51 02
Eastport, Maine, Fort Sullivan,		44 44	9 51 E.	94	— 1	113	42 44
Richmond, Va. mean of 4 yrs. M. J. A. Chevallie		37 04	0 26 W.				56 10
Baltimore, by Lewis Brantz, mean of 8 years,		39 18	0 25 E.	98	— 6	104	53 00

Washington City, Rev. Robert Little,		38°53′	00°00′	95	+10	85	56°56′
Annapolis, Fort Severn,		38 58	0 28 E.	92	+ 8	84	57 40
Smithville, at mouth of Cape Fear river, N. C.		34 00	1 10 W.	92	+26	66	58 88
Charleston Harbour, Fort Moultrie,		32 42	3 01 W.	92	+19	73	60 18
St. Augustine, eastern shore of Florida,		29 50	4 33 W.	94	+42	52	72 23
Brooke Cantonm't, west. sh. Flor. nr. Tampa bay		27 57	5 40 W.	92	+40	52	72 37
Pensacola, Cantonment Clinch		30 24	10 19 W.	95	+11	84	68 77
New Orleans, by calculation		30 00	13 10 W.	94			69 01
Baton Rouge	120	30 26	14 23 W.	99	+18	81	68 07
Jessup Cantonment, near Sabine, Louisiana	150	31 30	16 47 W.	97	+ 7	90	68 31

The data in table 45, where the observer's name is not mentioned, or in the two cases of Baton Rouge and New Orleans taken from calculation, are extracted from Dr. Lovell's Register. The reader will observe discrepancies which could only arise from defects in observation. The differences are in several instances irreconcilable with relative latitude or height, and are, for reasons already given, too high, with perhaps the two examples taken from observations made by Messrs. Brantz and Haines. See introductory remarks to this chapter, and tables 39, 40, 42 and 50, of mean temperature.

The most remarkable phenomenon rendered apparent by table 45. is the much more equal range of the Thermometer on the Atlantic coast, than in the basin of the Mississippi. The comparatively intense winter of the central parts of the continent is now demonstrated by undeniable evidence, and removes an idle, but by no means an innoxious vulgar error, so long supported by Volney and others, that the Ohio valley was in winter milder than on like curves of latitude along the Atlantic coast. It is not my wish to

se this chapter on the public, as a complete
y of the climate of the United States, but I
ɪt but flatter myself that it contains much docu-
of great tendency to a rational estimate of the
ɔrology of North America. The evidence now
ɔefore them will or may prevent emigrants
the Atlantic states, removing to the interior
an expectation of finding meliorated seasons on
ɪr latitudes. They may now see, that both sum-
and winters are more in excessive extremes
e great central prairies are approached, and
nay see also on an immense scale, that clearing
ɪd from timber, produces increased extremes,
ce of melioration on aerial temperature.
s of great importance in the investigation of
imate of the United States, to find some one
ɪre central places for which the mean temper-
is deduced with certainty. To effect this ob-
s no easy task. If the tables in this chapter
camined and compared, large and irreconcile-
liscrepancies will be seen between different
ɪers; and the mean of different years at the
place, present a very unequal local tempera-
and it may be also discovered, from the hours
king the observations, that the mean tempera-
f most places in the United States, for which
have been formed, is stated too high.
ssrs. Brantz and Haines, from observing very
in the morning, have produced tables with
mean temperature, and no doubt much more
:t than any hitherto published. This prefer-
s given to the labours of those two observers,
be understood, from the time of their obser-
s, and not from superior skill or care in their
:ions over others. Due diligence appears to
been used in the various military posts from
the data for Lovell's Register were collected,
must be evident that 7 A. M. and 2 and 9 P.
ust, particularly in high northern latitudes,

give a mean in summer, and of course for the year, entirely too great. In order therefore, to procure points of reference by which to compare other places, I have assumed the results from Brantz's and Haines's tables, as affording the most safe data, and proceed with their aid, and that of various observations made in that city, to fix the mean temperature of Washington, District of Columbia.

The following tables will enable the reader to compare the observations made at the City of Washington, with those of Mr. Reuben Haines at Germantown, James Young at Philadelphia, and Mr. Brantz at Baltimore. The relative elevation above tide water of Capitol Hill, and Mr. Haines's house in Germantown, it is probable are very nearly similar; difference of lat. 1° 08′.

No. XLVI.—*Table of the distribution of Caloric—winds, weather, &c. for* 1820, *at Washington City. Latitude* 38° 50′ 40″ *north. Longitude*, 0.

	Highest.	Lowest.	Mean of the month.	North Wind.	South.	East.	West.	N. West.	S. West.	N. East.	S. East.	Cloudy.	Clear.	Rain or Snow.	Calm.
Jan.	45	4	29.19	4	0	0	25	19	0	9	1	30	58	5	35
Feb.	72	10	41.88	0	4	0	10	15	8	7	2	21	53	13	41
March	71	20	45.99	0	3	0	3	20	18	10	1	21	50	19	35
April	89	24	56.86	0	7	1	5	9	24	11	2	19	62	9	31
May	85	44	63.15	2	7	0	17	7	12	8	0	39	47	7	40
June	96	50	72.34	0	2	0	2	7	10	10	0	16	69	8	56
July	96	60	78.81	2	4	0	2	9	36	4	2	27	66	11	34
Aug.	92	60	75.71	0	0	0	0	8	42	5	0	24	65	4	38
Sept.	88	43	67.44	0	5	0	0	10	10	5	1	21	63	6	59
Oct.	78	28	51.61	1	11	0	4	20	2	8	1	21	63	9	46
Nov.	64	26	42.32	0	0	0	15	12	9	5	0	27	55	8	49
Dec.	45	4	29.19	4	0	0	25	19	9	9	1	30	58	5	31

Notes to table 46.

WINDS.—North 13. South 43. East 1. West 108. N. West 155. S. West 177. N. East 91. S. East 11.—Nearly *three-fourths* from the *western* semicircle of the horizon.

WEATHER.—Clear 596. Cloudy 297. Calm 495. Rain or Snow 104.

RANGE.—100 degrees *Fahrenheit*, equal 37.77 of the *Centigrade* thermometer.

MEAN TEMPERATURE, for 1820, 55.02 Fahrenheit, equal 12.77 of Centrigade.

TEMPERATURE of *water* on the 30th Dec. 1820:—

	Fah.	*Cent.*
Public fountain in F. street, near the Catholic Church,	54	12.22
Hydrant, near Davis & Force's, Pennsylvania avenue,	52	11.11
Do. near Mr. Appler's, do.	49	9.44
Do. near Strother's Hotel, do.	50	10.00

COMPARISONS.

At Buyukdere, on the European side of the Bosphorus, near the Black Sea, about twelve miles from Constantinople. Thermometer in shade at noon.

	Highest.	*Lowest.*	*Mean.*	*Range.*
July 1799,	95	79	87.00	16.00
August,	87	70	78.50	17.00
At Jaffa, *Jappa* of the Scripture.				
July 1800,	94	84	89.00	10.00
At Grand Cairo.				
July 1801,	106	95	100.50	11.00
Dec. 1801,	83	64	73.50	19.00

J. MEIGS.

General Land Office, Jan. 22, 1821.

No. XLVII.—*Table of the monthly and annual mean temperature, at Washington City, from observations made in the Columbian Institute, by the Rev. Robert Little.*

Months.	1821*	1822	1823	1824	1825	1826	1827	Annual Mean.
Jan.	27.3			44.4	35.00	36.00	30.00	33.0
Feb.	44.13	36.41		40.8			42.00	40.80
March	42.31			50.4	48.05	49.00	48.00	46.9
April	51.33	57.46	70.20	59.0†	56.00	53.00	60.00	55.56
May	66.06		77.0		65.00	73.05	64.90	67.0
June	75.51		79.9			77.00	73.51	73.3
July	74.60		83.1	79.00	79.00	74.00	81.00	77.5
Aug.	79.40		82.9			77.00	80.50	78.8
Sept.	72.14		73.4	69.00	69.00	72.00	85.00	72.3
Oct.	57.11		60.6	57.00	57.00	59.00		58.3
Nov.	42.21		45.3	43.50	43.50	47.50		44.3
Dec.	32.62		43.2	40.00	40.00	37.00		36.4
Mean								57.09

* Column headed 1821, from Mr. J. Meigs. See table 46.

† From April 1823 to April 1824 inclusive, on the authority of M. de Wallenstein, Trans. A. P. S. New Series, vol. ii. page 436. The years 1823 and 1824, being far above the common temperature, and yielding, according to M. de Wallenstein, an annual mean of 62.2, the months are omitted in making up the aggregate in the right hand column of table 47. In 1823, according to the Rev. Mr. Little, the mean of May was 66°; according to M. de Wallenstein 77°. September, by the former 68°, by the latter 73°.04. In 1824, January according to Mr. Little 38°, to M. de Wallenstein 44°.4. The mean from April 1823 to March 1824 inclusive, was estimated by Brantz at Baltimore 53°.98; by Haines at Germantown 52°.28; and by James Young in Philadelphia 58°.54. It is *probable that* M. de Wallenstein's thermometer was influenced by some local cause, which increased the temperature. The mean in Lovell's Register, for Fort Moultrie in Charleston harbor, 6° 11′ S. from Washing-

Compared with either Haines or Brantz, the mean in table 47 is too high. If we allow a minute of latitude as equal to the 60th part of a degree of temperature, and on that datum deduce the mean of Washington from that of Baltimore in table 50, we have 53°+24′ or 53°.4 as the mean of the latter. It is 70 minutes of latitude between Washington and Germantown, which on the preceding rule would give to the former, from Haines's mean of latitude, 53°.466. It is remarkable also, that if on the difference of latitude and temperature, applied to the mean of Charleston, South Carolina, that of Washington comes out 54°.09. Mr. J. Meigs in 1821, found a mean for that single year, of 55°.02; Mr. Brantz deduced 52½°, and Mr. Haines 49°.6 for the same period. If Mr. Meigs' mean was corrected from the Baltimore table, it would be reduced to 52°.9, and if from the Germantown table, to a fraction less than 51°. It is rendered probable from the preceding reasoning, that the real mean temperature of Washington City is so near 53½°, as to admit the adoption of that number.

If therefore we allow one degree of Fahrenheit, as an equivalent for a degree of latitude, and the converse, and again estimate 400 feet elevation, as sufficient to lower the thermometer one degree, and suppose the mean of Washington found at 53½°, we have the necessary principles to deduce the mean temperature of any other place, within perhaps 5 or 6 degrees of latitude, either north or south, by having the latitude and relative height given. So many localities, however, contribute to slightly in-

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ton, is from April 1823, to March 1824 inclusive, only 65° 92′ or 3¾° more than deduced by M. de Wallenstein for the same period, at the latter place; and it is shewn, I trust conclusively, in this chapter, that the temperature *shown in Dr. Lovell's* Register, is at least sufficiently *elevated.*

fluence the thermometer, that only general results can be expected from such comparative estimates, and when the difference of latitude becomes considerable, such rules would be altogether delusive.

I may here again repeat the observation, that in all the tables of aerial temperature in this chapter, the discrepancies are greater than can arise from the relative height of places, or their differences in arc, and shew the great difficulty of procuring satisfactory results on meteorology, and enhance the necessity of paying more attention than has been hitherto done to prevailing winds, freezing of rivers and vegetable indications of temperature.

No. XLVIII.—*Table of the prevailing monthly winds at Washington City, constructed from the Rev. Mr. Little's monthly tables, and reduced to proportions of* 1000.

Months.	N. E.	N.	N. W.	W.	S. W.	S.	S. E.	E.
January	149	65	410	100	190	30	47	10
February	181	137	151	142	166	181	35	20
March	138	90	300	104	117	120	87	30
April	165	75	270	115	190	130	40	10
May	177	30	188	70	260	50	25	30
June	164	40	147	40	393	70	75	00
July	159	50	247	00	283	108	85	20
August	221	53	221	17	327	26	180	10
September	241	71	125	22	220	129	140	31
October	126	87	338	40	300	55	130	7
November	150	25	305	140	235	115	123	0
December	140	53	369	67	154	127	102	0
Amount	2011	776	3071	857	2835	1141	1069	168

The elements in table 48, afford very important *data.* The whole amount of winds are 11,928, of *which 6763* are from the three great points west of *the Meridian,* whilst those in an opposite direction *or from* S. E., E. and N. E. only amount to 3248.

	Farenheit's Thermometer.			Barometer.				rain or snow	Prevailing winds.					mean temperature City Springs.		
	highest at 3 P. M.	lowest sun rise.	aggregate mean.	highest	lowest	monthly range	monthly mean.	inches	N. W.	N. E.	S. E.	S. W.	Calm.	Centre	Clopper's	Sterrett's
January,	52°	15°	35 1-3	30 49	29 48	1 01	30 03	5 60	15	4	8	1	3	54	54	52
February,	49	9	29 1-4	30 46	29 32	1 14	30 03	0 70	12	7	7	1	4	53	53	49
March,	62	18	41 1-2	30 57	28 84	1 73	30 01	7 10	9	7	8	7		52 1-2	52 5-8	49 1-2
April,	77	34	45 2-3	30 61	29 68	0 93	30 16	1 80	7	5	8	10		52 1-4	52 1-4	51 1-8
May,	87	42	63 1-3	30 30	29 55	0 75	29 98	2 10	13	4	10	4		53 1-2	53 1-2	54 3-8
June,	87	52	69 1-3	30 38	29 78	0 60	30 11	1 60	2	8	17	3		54 7-8	55 1-4	58
July,	92	56	76	30 35	29 80	0 55	30 06	3 60	4	7	11	8	1	57	57	61
August,	90	59	75 1-2	30 47	29 85	0 62	30 10	4 10	4	6	11	10		58 1-4	58 1-4	63 1-4
September,	88	39	66 1-2	30 43	29 77	0 66	30 11	5 80	18	13	4	5		59	59	63 1-4
October,	74	32	53 2-3	30 34	29 70	0 64	30 08	2 80	14	4	7	6		59	59	61
November,	58	25	40 2-3	30 68	29 81	0 87	30 12	3 10	9	10	4	6	1	57 1-4	57 1-4	56
December,	54	22	36 2-4	30 62	29 52	1 01	30 18	6 25	12	4	6	7	2	55 1-2	55 1-2	56
ANNUAL.			53 2-3			1 84	30 08	44 55	109	79	101	68	8	55 1-2	55 1-2	56°

No. L.—*Table of the monthly mean temperature, near Baltimore, N. lat. 39° 17′, long. 0° 28′ E., deduced from eight years observations by Mr. Lewis Brantz.*

Month.	1817	1818	1819	1820	1821	1822	1823	1824	Mean.
January	28.75	31	36.25	26	24.12	27	35.33	39	30.875
February	27.25	28	33.5	40	37.33	33.5	29.25	34.66	33
March	40.5	29.66	36.66	41.66	38.33	44.5	41.5	41	39.25
April	58.25	46.5	50.5	52.66	45.33	55.5	55.66	51.75	52.12
May	59	57	62.25	56.12	59.75	66.66	63.33	60.66	60.6
June	69	71	72.66	69.2	73.75	72.5	69.33	69.5	70.875
July	74.75	76.33	75	74.6	72.5	76.66	76	76	75.25
August	71.75	73	76	74.25	78	76.5	75.5	72	74.66
September	65	63	68	66.66	69	70	66.5	64.75	66.6
October	52.25	51.66	51.75	50	54	59.33	53.66	56.5	54.875
November	46.66	45	46.66	39	43.25	49.25	40.66	44.5	44.33
December	34	29	33.66	32.5	34	35.33	36.66	40.33	38.75
Mean.	52.25	50.09	53.6	51.88	52.44	55.56	53.61	54.13	52.94

The annual mean temperature deduced from the monthly mean in table 49, is so inconsiderable a fraction less than 53°, that I have assumed that whole number as the mean annual temperature of Baltimore.

No. LI.—*Table of the monthly excess of heat and cold at Baltimore, compiled from observations made by Lewis Brantz.* H. *highest*, L. *lowest*.

Month	1817		1818		1819		1820		1821		1822		1823		1824	
	H.	L.	H.	L.	H.	L.	H.	L.	H.	L.	H.	L.	H.	L.	H.	L.
January	60	5	52	9	60	17	54	–2	55	–6	44	–1	52	15	62	25
February	56	–4	59	–2	60	13	73	20	63	18	66	14	49	9	58	9
March	64	18	68	16	71	14	76	13	64	15	73	24	62	18	60	26
April	84	36	70	25	74	26	88	18	68	22	82	30	77	34	78	32
May	83	43	84	37	85	35	84	42	90	42	88	51	87	42	80	43
June	84	41	90	54	94	54	94	47	89	55	90	56	87	52	89	50
July	92	54	94	60	96	55	95	58	92	57	93	61	92	56	88	63
August	88	48	88	63	98	53	98	58	95	59	92	62	90	59	84	58
Septem.	86	44	85	42	95	42	90	40	93	47	88	52	88	39	82	46
October	70	30	74	30	78	25	79	26	79	32	80	34	74	32	73	32
Novem.	74	20	73	25	70	22	64	19	62	28	65	30	58	25	63	28
Decem.	62	6	56	5	54	10	50	14	52	10	61	11	54	22	60	25

From this table it appears that in a connected series of 8 years the thermometer rose to 98 twice, August 14th, 1819, and August 12th, 1820; and sunk four times below zero, February 15th, 1817, February 10th, 1818, January 1st, 1820, and January 25th, 1821. In 1817, from March 31st to October 28th, 213 days temperature above 36°; 1818, from April 23d to October 22d, 182 days temperature above 37°; 1819, from April 2d to October 26th, 207 days temperature above 40°; 1820, from April 11th to October 22d, 195 days temperature above 33°; 1821, from April 20th to October 20th, 183 days temperature above 32°; 1822, from April 3d to November 4th, 212 days temperature above 39°; 1823, from March 22d to October 18th, 210 days temperature above 36°; and 1824, from March 23d to October 22d, 219 days temperature above 32°. The summer, therefore, of Baltimore and vicinity, *averaged from 1817* to 1824 inclusive, 202½ days. *See table for Harmony.*

No. LII.—*Table of the monthly winds at Baltimore, from a mean of 8 years, constructed from Mr. Brantz's tables.*

Months.	NE.	NW.	SW.	SE.
January	38	91	38	62
February	49	77	53	55
March	46	86	46	61
April	36	71	61	63
May	37	70	37	98
June	32	56	69	83
July	52	49	62	87
August	48	56	48	99
September	58	62	33	73
October	57	88	49	62
November	44	71	48	60
December	62	83	52	42
Amount	559	870	596	845
Decimally expressed	194	303	208	295

The proportions of the winds in this table differ so essentially from every other in this chapter, and the other tables being founded on observations so widely and so unconnectedly made, would certainly justify a suspicion of some local influence on Mr. Brantz's Anemometer. However, in this case the winds from the western side of the meridian preponderate.

No. LIII.—*Table of the monthly depth in inches of rain at Baltimore, from Mr. Brantz's tables.*

	1817	1818	1819	1820	1821	1822	1823	1824	Mean.
January	2.25	.9	.7	2.8	3.3	1.8	5.6	2.3	2.85
February	2.8	2.0	1.9	2.2	5.4	4.8	.7	5.9	3.225
March	4.5	3.0	4.55	3.3	1.7	1.3	7.1	4.3	3.71
April	1.5	2.1	2.7	1.1	2.1	2.1	1.8	4.7	2.20
May	2.6	6.45	4.1	4.4	5.1	1.5	2.1	2.95	3.65
June	9.1	1.15	1.3	4.6	1.8	1.5	1.6	5.03	3.66
July	3.5	4.1	2.2	2.2	7.5	4.35	3.6	3.37	3.85
August	10.4	2.0	4.3	8.0	0.3	.8	4.1	4.5	4.3
September	3.3	3.2	3.0	1.5	10.7	2.25	5.8	2.94	4.45
October	1.8	3.1	.7	7.8	3.4	2.5	2.8	1.77	2.975
November	3.7	2.0	1.1	2.7	5.6	5.1	3.1	2.27	3.2
December	3.6	2.6	2.2	1.9	3.3	1.2	6.25	2.25	2.9
Amount.	48.55	32.6	28.75	40.5	50.2	29.2	44.55	42.28	39.97

No. LIV.—*Monthly Mean temperature at Philadelphia, deduced from a connected series of 20 years observations, made by Mr. James Young at the Philad. Insurance Office, corner of 2nd and Dock streets.*

	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Mean.
1807	32	33.25	39	52.50	62.25	70	75	75.50	68.75	60.25	42.50	43	51.25
1808	33.25	41	48.75	60.75	67	81	81	80.75	72.25	59.50	47.75	39.25	59.33
1809	29.75	32.75	42.75	57.25	67.50	78.50	78.25	76.75	71.75	66.25	43.25	40.50	57.⅛
1810	34	39	42.75	61	72	78	79.25	78	73.75	58.75	45	36.50	58.⅛
1811	34.50	33.75	53.75	56.75	66	76.25	84.75	79.75	74	65.25	49	37	59.2
1812	31	36.75	45	58.25	64	79	83	79.50	70	59.25	46.25	37.25	57.4
1813	31.50	35.25	45	60	67.25	83.50	81.25	82.75	76	57.25	47.50	35	58.50
1814	32.75	38.75	43	59.75	70.75	77.50	82	79.75	73.50	60.25	48.75	35	58.50
1815	34.75	32.25	47.75	57.50	65.50	78.25	86.50	81.50	71.75	60.50	50.25	35.25	58.50
1816	30.75	40	44.75	57.25	67	75	76.75	79.50	70	60.50	49.50	39.50	51.75
1817	31	27.25	45	61	68.25	74	80.75	79.50	72.75	57.50	50.25	37	57
1818	33	30.25	45.50	53.75	65.50	80.75	82.75	79.25	70.75	59.75	51.50	32.75	58 56½
1819	36	39.25	40.33	59.1	66.2	81.9	84.4	83.50	75.⅞	58	50.7	35.6	59.2
1820	30	43.8	46.50	46.8	66.2	80.6	86.4	83.4	76	58.1	44.1	34.50	58
1821	25	40	45.50	54.8	69.50	81.50	82.1	84.9	75.50	61.33	45.6	34.33	58.33
1822	30	38.50	48.50	56.7	74.	80.	84.4	82.6	82.6	64.1	53.1	36.1	60.8
1823	34.8	29.6	44.7	61.1	69.1	78.1	81.5	81.9	71.50	58.6	43	38.4	58.9
1824	39.8	34.6	44.9	54.7	64.4	78.4	83.6	79.5	71.9	61.6	47.7	40.9	58.50
1825	36.7	38.3	51.1	60.4	71.4	82.9	85.4	82.2	73.7	66	48.50	36.8	61.1
1826	34.4	39.4	48.1	54.25	78.50	82.	85.2	82.75	75.6	63.50	48.6	37.50	60.8
Mean.	32.7	36.32	45.62	57.18	68.1	78.27	82.25	80.6	73.39	60.81	47.64	37.1	58.41

able of the annual winds at Philadelphia, rs, formed from observations made by Mr. ng, at the Philadelphia Insurance Office, cor- nd and Dock streets.

N.	N. W.	W.	S. W.	S.	S. E.	E.
41	191	174	210	77	75	42
55	287	98	252	70	60	24
35	225	71	260	80	81	32
55	198	103	256	47	50	23
51	241	76	238	48	85	39
36	241	78	253	48	58	21
38	278	132	215	35	65	35
48	261	111	255	46	63	17
52	239	122	265	47	76	29
48	269	120	237	45	61	29
67	277	98	263	49	51	25
66	252	117	229	64	51	31
59	209	149	251	34	47	39
62	173	161	268	68	59	26
53	192	110	292	60	54	36
67	209	137	225	80	73	48
50	177	119	301	79	102	30
35	204	143	300	56	77	32
37	245	135	279	64	75	43
42	203	121	256	62	100	34
44	193	158	251	65	92	51
49	227	120	255	58	69	$32\frac{3}{5}$

al mean in No. 55, as well as in No. 58, to proportions of 1000; and it is remark- the Philadelphia table, the three wes- constitute 602 thousandths, in the Ger- ble 663 thousandths, and in the table of *winds* No. 44, page 378, the western *t to 602* thousandths of the whole.

No. LVI.—*Table of the monthly mean temperature at Germantown, near Philadelphia, N. lat.* 40° 03′, *long. W. C.* 1° 45′ *E.* From Observations by Mr. Reuben Haines.

	YEARS.										Monthly Mean.
	1819	1820	1821	1822	1823	1824	1825	1826	1827	1828	
January		26.5	27	25.6	27.5	36.875	32.33	32	26.6	36.4	30
February		32	33.75	27.2	26	33.75	34	35.4	37.6	38.7	33.1
March		39.66	37.45	42.33	35.33	39.9	45.3	44.3	42.6	44.5	41.2
April		53	44	52.25	54.7	49.6	51.5	47.2	55.1	47.3	49.4
May		57.75	60	62	60.4	61.8	61.6	68.8	58.7	61	61.3
June	62.7	68.75	67.57	71	69.5	69.33	73.5	72.5	84.9	72.2	71.2
July	76	75.5	71	75.1	73	75.5	81.2	74	74.1	73.8	75
August	75.4	72	71	73.5	72	69.6	73.4	79	73		73
September	68.875	66.33	63.8	64.4	63.33	64.4	63.9	67.7	64		65
October	52.66	50	51.5	56.1	49.7	53.7	57.33	55.33	55		53.4
November	46.1	37.2	39.7	46.33	39.5	43.2	43	43.33	39.5		42.6
December	33.66	28	28.4	33	34.8	30.9	33.4	33.8	38		32.6
Mean		50.55	49.6	52.4	50.5	52.1	54.2	54.4	54		52.37

No. LVII.—*Table of the monthly extremes of Temp. at Germantown near Philadelphia, N. lat.* 40° 03′. *Compiled from observations made by Reuben Haines.*

Month.	1819		1820		1821		1822		1823		1824		1825		1826	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
January			40	5	52	-10	47½	-¾	53	9	60	12	49	14	59	4
February			60	-4	59	19	64	11	45	3	64	5	52	5	61	2
March			68	16	70	12	68	21	59	7	58	19	69	27	78	22
April			72	30	72	23	79	30	79	32	76	31	78	27	80	21
May			74	42	83	42	80	48	85	33	82	38	85	39	90	44
June	89	55	87	50	86	55	80	62	91	45	90	46	92	51	92	57
July	92	54	88	60	87	60	86	62	87	57	89	59	96	65	90	55
August	96	62	85	60	92	61	87	56	88	53	86	50	94	59	85	59
September	86	50	82	46	85	36	89	47	84	33	82	41	78	44	86	44
October	74	28	70	29	70	34	76	35	74	32	73	30	83	31	74	32
November	68	28	55	22	55	28	68	31	56	18	58	20	70	23	62	25
December	48	10	47	16	46	10	55	10	50	19	64	21	57	3	61	2

The result of mean temperature at Germantown by Mr. Haines, corresponds in a very striking manner with that deduced from Mr. Brantz's tables for Baltimore. The difference of latitude between the two points of observation is 47′, and the difference of annual mean temperature 67 hundredths of a degree of Fahrenheit. The relative latitude at an allowance of a degree of latitude to a degree of the thermometers used, would yield a difference of 78 hundredths in mean temperature.

No. LVIII.—*Table of the prevalent winds at Germantown, near Philadelphia, from eight years' observations made by Reuben Haines.*

Year.	N.E.	N.	N.W.	W.	S.W.	S.	S.E.	E.
1820	148	21	182	261	217	37	80	49
1821	57	48	174	268	166	53	115	65
1822	116	43	475	98	205	16	37	7
1823	107	97	165	407	175	71	80	125
1824	75	80	109	323	135	93	48	116
1825	105	35	140	410	145	51	61	78
1826	91	32	158	361	163	32	72	93
1827	95	40	185	333	163	49	30	105
Amount	794	396	1588	2461	1369	402	523	638
Pro. of 1000	97.1	48.4	194.3	301	167.5	49.2	64	78.5

In this, as in most other tables of wind in this chapter, the north and south winds nearly balance each other, whilst those from the three western, exceed those from the three eastern points as 3 to 1 nearly.

IX.—*Meteorological Register, for July, 1828, kept the Capitol Hill, Washington, D. C., by W. E.*

Thermometer.	Winds	Weather	Rain 100th inches
82	SW.	Cloudy: ev. gust.	
69	NW.	Clear: lt. breeze	
70	NW.	Cloudy: med. br.	
68	NW.	Clear: m. b.	
69	NE.	Clear: m. b.	
72½	SW.	Clear: light b.	
80½	SW.	Clear: l. b.	
71½	SSE.SW.	Cloudy: brisk b. rain	.08
68½	NW.	Clear: l. b.	
73½	NW.	do. do.	
75	SW.NW.	do. do.	
73	SW.SE.	do. do.	
80½	SE.SW.	Cl'dy: wind and rain	.41
76	SW.	Cloudy: m. b. rain	.95
70	NW.SW.	Cloudy: br. b. rain	.10
72½	NW.	Clear: mod. b.	
70½	SW.NW.	do. do.	
72½	SW.	do. do.	
74½	SW.	Misty: l. b.	
79	SW.SE.	Cloudy: l. b. rain	.12
78	SW.	Clear: m. b.	
81½	SE.	Cloudy: m. b. rain	.05
81½	SW.	Clear: br. b.	
82½	SW.	do. do.	
82	SW.W.	Cl'r: l. b. ev. cl'y: r'n	.10
82½	NW.	Cloudy: m. b. rain	.05
84	SW.	Clear: m. b.	
80	NW.SE.	do. do.	
75	NE.NW.	Cloudy: br. b.	
75½	NW.SW.	Clear: m. b.	
79	S.W.	Cloudy: m. b. rain	.05
			1.91

Notes to No. 59.

Maximum temperature on the 27th, 94; minimum the 5th, 58; difference of extremes, 36; mean of do.

No. LX.—*Table of the diurnal and mean heat, a prevalent winds at Germantown, for July,* 18 *by Reuben Haines.*

Day	Thermometer.	Prevailing winds.	Rain. Inche
1	72½	S.	
2	70	W.	
3	68	SW.W.	
4	71	NW.	
5	68½	NW.	
6	71	W.	
7	76	SW.	
8	73	S.	1.80
9	70	SW.	
10	69½	W.SW.	.5
11	72½	SW.	
12	70	W.	
13	66½	SE.S.	
14	75½	SE.SW.	.28
15	73½	W.SW.	.90
16	74	SE.SE.	
17	72	W.	.18
18	72	NW.W.	.20
19	74	W.SW.	
20	70	W.N.	
21	74	NW.W.	.45
22	76½	SW.W.	
23	78	W.	
24	79	W.SW.	.10
25	80½	SW.	
26	89½	SW.	.10
27	81½	W.	
28	81½	W.SW.	
29	72½	N.W.	
30	75½	N.W.	
31	74½	S.SW.	4.56

THERMOMETER.

Max. on 26th, 91; Min. 4th & 5th, 60; Mean of mth 7

Table 57, p. 385, exhibits a range of 106, the thermometer having risen to 96, on August 1st 1819, and sunk to 10° below zero, on January 25th 1821. In fact, from the 11th to the 27th of January 1821, Mr. Haines's thermometer floated between 37 above, to 10 below zero. At the same period, Mr. Brantz's instrument at Baltimore, veered between 6° below and 40° above zero. The observations of Mr. J. Young in the city of Philadelphia, indicate simultaneous extremes of temperature, but the latter as usual several degrees above his co-observers.

It is shewn by Mr. Haines's data, that in 1820, from the 20th of April to October 24, 187 days, the temperature was above 38°.

In 1821, from April 20th to November 12th, 206 days, the temperature was above 34°.

In 1822, from April 3rd to November 4th, 214 days, the temperature was above 36°.

In 1823, from March 30th to November 1st, 215 days, the lowest temperature was 32°.

In 1824, from April 5th to October 29th, 207 days, the temperature stood above 33°.

The following comparative view of the summers at Baltimore and Germantown, is the more worthy of interest, from the fact so clearly shewn by the tables in this chapter, that of all the observers who have collected thermometrical data concerning the United States, Messrs. Brantz and Haines have deduced the lowest comparative mean temperature.

No. LXI.—*Temperature of Summer at Baltimore.*

By Mr. Lewis Brantz.

1820.	April 11 to Oct. 22nd, 195 days.
1821.	April 20 to Nov. 20th, 214 days.
1822.	April 3rd to Nov. 30, 241 days.
1823.	March 22 to Nov. 18, 241 days.
1824.	March 23 to Oct. 22, 219 days.

Summer at Germantown by Reuben Haines.

1820. April 20th to Oct. 24, 187 days.
1821. April 20th to Nov. 12, 206 days.
1822. April 3 to Nov. 4, 214 days.*
1823. March 30 to Nov. 1st, 215 days.
1824. April 5th to Oct. 29, 207 days.

In respect to influence on vegetation, cold rai and chilling winds, though unattended by real co so low as the freezing of water, nevertheless r trench from real summer; but with every deducti the true vegetable summer, or the season in whi mean heat exceeds 60° of Fahrenheit, over the A lantic portion of the middle states, exceeds 150 da in a mean of an extensive series of years; though some years untimely frosts occur in almost eve month, of which 1816 was a very remarkable i stance.

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* On the 5th of November Mr. Haines's thermomet fell to 31°, but rose again and ranged between 32° a 50°, generally about 40°, until the 2nd of December, a it may be observed that the summer of two places contiguous as those in this table, may have an appare great difference of summer from a single frost. Fro both these tables it is shewn, that the Atlantic slope the United States, where but slightly elevated abo the Oceanic level, has in common years, a summer from 180 to 240 days, or from 6 to 8 months.

	1819	1820	1821	1822	1823	1824	1825	1826	1827	Monthly mean.
January			.48	1.70	3.38	3.67	1.84	1.48	2.72	2.18
February		2.55	4.82	2.90	3.86	3.94	4.54	2.50	3.57	3.58
March		3.01	.57	2.20	6.87	2.63	5.40	3.54	1.42	3.07
April			3.05	2.16	1.77	4.54	.75	3.02	3.06	2.62
May		6.36	5.92	2.17	1.60	1.59	2.57	.22	2.58	2.87
June		1.88	2.60	1.44	.87	6.09	3.94	5.98	2.98	3.22
July	.74	6.50	1.84	3.89	6.12	8.80	1.68	5.87	2.90	4.25
August	3.86	3.64	.41	1.33	4.68	6.39	4.06	4.30	6.56	3.48
September	2.44	1.95	5.74	5.45	3.46	6.60	2.23	2.82	1.18	3.27
October	.94	8.94	3.24	1.24	2.02	1.53	1.70	5.38	6.57	3.50
November	1.00	3.12	4.65	5.00	2.47	2.49	1.05	2.05	5.30	3.01
December	1.46	3.25	2.84	1.25	7.37	2.11	3.60	1.47	4.09	3.05
Amount.	10.44	43.20	36.06	30.73	44.47	50.38	33.36	38.63	4 293	38.10

No. LXIII.—*Table of the comparative monthly mean temperature of New Harmony and Philadelphia, for* 1826, *the former standing* 1° 47′ *more southwardly, and also elevated above the latter about* 340 *feet.*

New Harmony Gazette, No. 19, vol. 2, p. 152.

	New Harmony.			Philadelphia.		
	Minimum	Maximum	Mean	Minimum	Maximum	Mean
January	4°	75°	35.1	7	60	37
February	0	68	37.1	4	66	38
March	30	82	57	22	74	44
April	25	85	57.9	27	75	52
May	51	93	73.6	48	91	75
June	56	98	76.5	54	94	74
July	55	93	76.3	56	90	76
August	41	92	74	60	86	75
September	37	83	65	44	88	68
October	31	82	62.6	30	78	58
November	20	77	44	30	64	45
December	—4	66	35	4	60	36
			57.84			56.5

Difference 1.34

No. LXIV.—*Table of the monthly mean temperature at New Harmony, Indiana, N. lat.* 38° 11′, *W. long.* 10° 50′, *extracted from the New Harmony Gazette. Observer, Gerard Troost.*

Month.	Maximum.	Minimum.	Range.	Mean.	Hottest day.	Coldest day.
1826, July	93	38	38	76.3	21	28
Aug.	92.7	41	51.7	74	14	28
Sept.	83	37	46	65	9	27
Oct.	82	31	51	62.6	31	10
Nov.	77	20	57	44.1	6	19
Dec.	66	—4	70	35.5	17	27
1827, Jan.	59	—5	54	27	25	12
Feb.	75	16	59	45.5	23	12
March	75	25	50	49.1	29	15
April	82	30	50	55	25	17
May	86	31	55	61.2	28	7
June	96	41	55	74.1	19	22
July	93	69	24	81.4	12	19
Aug.	96	55	41	77	5	22
Sept.	87	32	55	66.3	4	27
Oct.	75	20	55	48.83	3	27
Nov.	72	18	54	42.54	3	21
Dec.	66	21	45	39.71	3	12
1828, Jan.	64	12	52	40.23	5	21
Feb.	68	12	56	41.98	2	28
March	82	20	62	51.59	26	4
April	86	28	58	55.23	30	5
May	91	42	49	68.12	4	8
June	96	55	41	78.48	24	13
Mean of the year				56.69		

No. LXV.—*Table of the monthly winds at New Harmony from a mean of two years, commencing July,* 1826, *ending June,* 1828, *both months inclusive.*

Months.	N.E.	N.	N.W	W.	S.W	S.	S.E.	E.
January	33	22	22	37	33	17	11	22
February	9	13	16	40	37	30	15	11
March	14	15	24	33	54	17	14	10
April	8	13	32	36	43	33	4	14
May	16	7	26	26	44	31	12	13
June	4	4	6	20	35	27	8	8
July	9	32	19	17	41	28	11	2
August	46	34	11	12	34	25	14	15
September	27	35	14	13	32	19	18	22
October	20	38	20	34	23	22	11	14
November	13	30	30	32	18	33	4	22
December	12	18	28	29	46	32	9	13
	201	261	248	329	440	314	131	66
Propor. of 1000	101	131	124	165	221	155	65	33

The winds at New Harmony were observed by Dr. Gerard Troost, at morning, noon, and evening. The period, though rather too limited for a conclusive result, yet gives to each wind a relative mean, which corresponds with an astonishing approximation to the tables for other and very distant parts of the continent.

No. LXVI.—*Table of the monthly depth, in inches, of rain, at New Harmony, by Dr. Troost.*

Months.	1826.	1827.	1828.	Mean.
January		3.17	5.45	4.31
February		4.05	4.04	4.04
March		3.42	3.34	3.38
April		6.37	2.67	4.52
May		1.65	3.58	2.61
June		3.30	5.53	4.41
July	3.75	3.34		3.54
August	1.95	7.74		4.84
September	4.25	1.34		2.80
October	1.85	3.84		2.84
November	1.82	1.42		1.62
December	2.84	5.04		3.94
Amount	16.46	44.68	24.61	42.85

This, and No. 53, p. 391, and 62, p. 401, tables of rain, are inserted more as subjects of curious comparison, than from any philosophical result that can be drawn from such desultory observation, or from phenomena which occur so very irregularly as do the rains of the United States. The mean terms of the same month at the same place, differ from each other not more widely than do the mean terms of successive years. To determine whether there exists a regular periodical series of wet and dry seasons, demands a much more extended period of observation, and of observations made simultaneously at numerous, and as far as practicable, distant places.

No. LXVII.—*Table of the monthly excess of heat and cold, or the highest and lowest extremes of the thermometer, at New Harmony, Indiana, N. lat.* 38° 11′, *long.* 10° 50′ *W., and elevated above the oceanic level about* 340 *feet. Observer, Gerard Troost.*

	1826.		1827.		1828.		New Harmony Gazette.	
Month.	Max.	Min.	Max.	Min.	Max.	Min.	Vol.	Page.
July	93	55					1,	368
August	92.7	41					1,	408
September	83	37					2,	16
October	82	31					2,	48
November	77	20					2,	80
December	66	–4					2,	111
January			54	–5			2,	152
February			75	16			2,	184
March			75	25			2,	224
April			82	32			2,	256
May			86	31			2,	288
June			96	41			2,	320
July			93	69			2,	352
August			96	55			2,	384
September			87	32			2,	416
October			75	20			3,	40
November			72	18			3,	64
December			66	21			3,	104
January					64	12	3,	136
February					68	12	3,	160
March					82	20	3,	192
April					86	28	3,	224
May					91	42	3,	256
June					96	55	3,	296

In 1827, from March 29th to October 29th, 215 days, the thermometer ranged above 32 degrees, giving to New Harmony, in that year, a length of summer nearly similar to the mean of that of Baltimore; one year is, however, too short a period on which to base a general conclusion.

No. LXVIII.—*Table of the monthly mean temperature at Cincinnati, N. lat.* 39° 07′, *long.* 7° 26′ *W. Constructed from meteorological tables in Drake's View of Cincinnati, pages* 94, 95.

Month.	THERMOMETER.							
	Highest		Lowest.		Range.		Mean.	
Jan.	59		—2*		61		29.88	
Feb.	66		6		60		34.42	
March	73		16		57		43.97	
April	28		84		56		57.58	
May	88		40		48		61.32	
June	93		49		44		71.16	
July	94		54		40		74.51	
Aug.	90		53		37		73.27	
Sept.	88		46		42		68.28	
Oct.	80		28		52		55.08	
Nov.	66		13		53		41.75	
Dec.	56		10		46		34.54	
Mean							53.81	
Mean of	1806	1807	1808	1809	1810	1811	1812	1813
	54.10	54.4	56.4	54.4	52.77	56.62	52.65	52.76

The mean of the months, 53°.81, added to the mean of the years, 54°.28, produces a compound mean within an indifferent fraction of 54°.

* "The greatest cold ever observed at this place [Cincinnati], was on the 8th of January, 1797, when, according to Governor Sargeant, the Mercury fell to 18° below zero. In Kentucky, nearly half a degree south of this town, Dr. Doniphan, during the same month, observed it to fall 14° below zero." Drake's View, page 24.

No. LXIX.—*Table of the prevailing winds at Cincinnati, N. lat. 39° 07′, long. W. C. 7° 26′ W., as given in Dr. Drake's Picture of Cincinnati, page 98.*

MONTHS.	N. E.	N.	N.W.	W.	S. W.	S.	S. E.	E.
January	8	1	21	6	13	2	6	3
February	8	1	14	5	13	1	5	0
March	11	1	10	5	16	1	10	0
April	10	1	8	3	24	1	7	4
May	10	0	10	4	19	1	7	5
June	12	5	7	2	23	1	9	6
July	11	2	11	4	19	1	6	1
August	10	1	12	1	23	1	6	1
September	9	0	8	3	23	1	6	2
October	6	1	10	4	24	1	9	2
November	6	1	10	7	13	3	9	2
December	5	0	15	6	11	1	7	2
Amount -	106	14	136	50	221	14	87	16
Proportions of 1000	164	22	211	77	343	22	135	26

Dr. Drake's View of Cincinnati, from which this table and No. 70 were taken, is a work of great merit, and gives a permanent value to any document depending upon it for authority; but in this, as in most other cases of observation in the United States, the tables of prevalent winds deserve more confidence than those of mean temperature. It is not too much to say, that tables 65 and 69 decide the prevalent winds of Ohio Valley.

.70 and 71, were originally published
View of South Carolina, and re-pub-
lme's Annals, Vol. II. page 209.

Table of mean temperature at Charleston, South Carolina, N. lat. 32° 44′.

	Spring.	Summer.	Autumn.	Winter.	Annual Extremes	Mean of the Year.
iest	85	96	91	73	96	60.05
est	27	52	44	25	25	
iest	84	94	91	76	94	56
est	30	67	40	18	18	
iest	87	101	96	81	101	59½
est	32	60	55	18	18	
iest	81	91	90	76	91	59½
est	34	59	44	28	28	
iest	84	93	88	75	93	57½
est	22	54	48	31	22	
iest	81	90	87	70	90	58
est	27	53	33	26	26	
iest	79	96	90	71	96	61½
est	45	49	41	27	27	
iest	78	89	90	75	90	57½
est	25	50	49	31	25	
iest	85	94	92	77	94	59½
est	29	46	43	25	25	
iest	71	93	90	79	93	60
est	31	51	45	28	27	

No. LXXI.—*Table 2nd, for the mean temperatu*
Charleston, South Carolina.

Yrs.	Thermometer.		Annual Mean.
1791	Highest	90	59
	Lowest	28	
1792	Highest	93	61½
	Lowest	30	
1793	Highest	89	59
	Lowest	30	
1794	Highest	91	62½
	Lowest	34	
1795	Highest	92	60
	Lowest	29	
1796	Highest	89	53
	Lowest	17	
1797	Highest	88	55
	Lowest	22	
1798	Highest	88	59½
	Lowest	31	
1822	Highest	64	61.91
	Lowest	60	
1823	Highest	67¼	56.80
	Lowest	62½	
1824	Highest	72	66.85
	Lowest	63	

Mean of the 10 years in table 70—59°.90
Mean of the 8 first years in table 71—58.8
Mean of the 3 last years in do. 61.8
Mean of the 3 preceding 60.1

The three latter years in table 71, were t
from Dr. Lovell's Register, and yield a mean 2
lower than given in the average table, page
the Register. The mean in the latter, appea
have been deduced from the annual mean at
M., and 2 and 9 P. M.; I deduced the mean for
71 by taking Dr. Lovell's mean for each year,
ding them together and dividing by 3.

No. LXXII.—*Monthly mean temperature at Richmond, Virginia, N. lat. 37° 04′, long. 0° 26′ W. from W. C., from a mean of two years, by Mr. J. A. Chevallie; and liberally procured for insertion in the* "View," *by Mr. Herman Boyé.*

Month.	1824	1825	1826	1827	Mean
January	42	34.6	33.2	25	33.7
February	35½	39	41	43.9	39.8
March	43	50	49.6	46	47.1
April	53	55	57.8	59	54.7
May	64.4	64.4	68	64.5	65.4
June	75	73.6	73⅓	73.6	73.8
July	79	80	74.8	76.8	77.6
August	74⅓	76.4	72.9	75	74.8
September	66.8	65.7	68.9	67.2	67.1
October	57⅓	60	56.8	56	57.5
November	47.2	41.8	44	43.8	44.2
December	40.8	33	34.2	44.6	38.1
Mean	56.5	56	55.7	56.5	56.1

The observations from which this table was compiled were made at morning, noon, and night.

When compared with the corrected mean for Washington, page 385, that for Richmond ought to be 55°.3. The difference of latitude between the places is 109 minutes, an equivalent to 1°.8 of Fahrenheit; from whence we have 53°.5+1°.8=55°.3 mean corrected for Richmond, 8 tenths less than deduced by the elements in table 72.

XIII.—*Abstract of the prevailing winds at various points of the United States, above N. lat. 35°. The whole numbers reduced to proportions of* 1000.

Places of Observation.	Table No.	Page.	NE.	N.	NW.	W.	SW.	S.	SE.	E.
Polar Sea,	38		122	100	394	79¾	132	32	112	28
Fort Brady,	39		32	58	159	274	79	86	241	73
Basin of Columbia,			130	20	118	44	401	33	200	53
Valley of Missouri,			117	58	294	73	244	21	141	48
Council Bluffs,			71	196	151	53	101	246	134	61
Fort Howard,			384	23	23	26	535	13	3	6
Fort Crawford,			33	186	250	53	101	190	137	10
New Harmony,			101	131	124	165	221	155	65	33
Cincinnati,			164	22	211	77	343	22	135	26
Washington City,			165	65	257	72	238	96	90	14
Baltimore,			194		303		208		295	
Philadelphia,			196	49	227	120	255	58	69	32
Germantown,			97	48	194.3	301	167	49	64	78.5
New York,			116	24	301	69	210	130	134	29
Newport, R. Island,			112	101	218	61	335	66	89	33
Eastport, Maine,			68	109	229.7	159	123	234	26	69
			2102	1190	3454	1638	3693	1231	1929	593.5

It is not a little remarkable, that of this aggregate of 15830 decimal numbers, 8785, or upwards of 55 hundredths of the whole are from the three western points, NW., W., and SW.

No. LXXIV.—*Abstract of the prevailing winds at various points in the United States, below N. lat. 35°. The whole reduced to proportions of* 1000.

Places of Observation.	NE.	N.	NW	W.	SW.	S.	SE.	E.
Baton Rouge,.....	236	5	133	83	208	94	153	100
Pensacola,.....	417	36	97	47	83	25	250	58
Cantonment Jessup,	146	79	99	65	151	109	235	127
Tampa Bay,.....								
St. Augustine,.....	416	36	97	47	83	25	250	58
Charleston, S. C.,..	228	59	38	57	127	169	186	126
Smithville, N. C.,..	42	293	109	141	52	299	21	53
Amount,.....	1485	508	573	440	704	721	1095	522

No. 73 and 74, demonstrate a curve in the general course of the winds, advancing from the northern to the southern extremity of the United States. The theory laid down in my Lectures on the Climate of the United States, was, that the winds uninfluenced by local interruptions, followed a parabolic curve, from the polar to the tropical regions of the earth, with the sweep of the curve eastward. This would presuppose the prevalent wind from the NW. in high northern, and SE. in high southern latitudes, gradually inflecting, and becoming NE. or SE. near the tropics. The prevalent winds along the Atlantic coast of the United States, sustain the theory, beyond even my own hopes, and evince far less compliance with local influence than I anticipated. All the tables of wind, in this chapter, demonstrate a regularity in the winds of the northern temperate zone of America, the northern Atlantic, and western Europe, which could scarcely be supposed probable over a surface so greatly diversified. We now find that western winds do not fall on western Europe, because the Atlantic ocean stretches from that quarter, but because the natural and unchangeable trade wind of Europe is from the western side of the meridians, as it is, with little exception, round the earth in those latitudes.

A cause must be deep and permanent, the effects of *which are uniform from* the Pacific coast of the continent *of North America,* to the centre of Europe.

Without the least hope of deciding so intr
and important a question as the revolutions o
atmosphere, I have with considerable labour
pared most of the preceding tables, and ho
have, by their means, condensed a mass of
drawn from experiment, which may aid in
solution of a problem of great interest in phy
science; that is, has or has not the climate o
United States undergone any radical change sinc
original settlement by Europeans? Such a pro
had its origin in a fancied change, of a simila
ture, in Europe. How far the climate of E
has meliorated in modern times, has occupie
pens of the first men of the present age, and h
sulted in conclusions, directly contradictory to
may be without arrogance called a vulgar erro
the 27th volume of *Annales de Chimie et de*
sique, page 408, we find the following facts ex
ly on this subject.

"The invention of thermometers does not re
but little beyond the year 1590; we may ev
that before 1700, these instruments were neithe
rect nor capable of comparison. It is then im
ble to determine with precision, for any part o
earth, what was its temperature in very remote
but restricting ourselves to these limits, and se
only, for example, if at present the winters are
or less rigorous than in times past, we may s
direct observation, by taking from ancient au
passages relative to several natural phenor
such as the congelation of rivers, seas, &c.
small number of citations of this kind which I
connected here, prove, I think, even giving d
lowance for such exaggerations as may be fou
authors, that in Europe in general, and Fran
particular, the winters for some centuries, have
at least as severe as at present.

"*In the* first century before the Christian e
the mouth of the Paulus Mœtis [Straits of

the frost was so intense, that one of the generals of Mithridates defeated the barbarian cavalry, on precisely the same place where, in summer, they had been before defeated in a naval battle.

"In A. D. 400, the Black sea was entirely frozen, as was the Rhone in all its length. Such a phenomenon indicated a temperature of at least 18° centigrade, °.4 Fahrenheit, below zero. When the Gulf of Venice was frozen in 1709, the thermometer in that city fell to 20° centigrade, 4° Fahrenheit, below zero.

"In A. D. 462, the army of Theodomer crossed the Danube on the ice. The Var, a small river of France and Italy, falling into the Mediterranean, between Nice and Monaco, was frozen, which effect demanded a temperature of 10° or 12° centrigrade, below zero.

"A. D. 763, the Black sea and Dardanelles were frozen.

"A. D. 822, loaded carriages traversed on the ice for upwards of a month, the Danube, the Elbe, and the Seine. The Rhone, the Po, and the Adriatic sea were frozen. See A. D. 400.

"A. D. 829, on the authority of Abd Allatif, translated by M. Silvestre de Sacy, when the Jacobite Patriarch of Antioch, Dionysius of Telmahre, attended the Khaliffe Mamoun into Egypt, they found the Nile frozen.

"A. D. 860, the Adriatic sea and the Rhone were frozen, demanding a temperature of 20° centigrade, 4° Fahrenheit, below zero.

"A. D. 1133, the Po was closed from Cremona to the sea, and the Rhone crossed on the ice. Wine froze in the cellars:—at least 18° centigrade, °.4 Fahrenheit, below zero.

"A. D. 1216, the Po and the Rhone frozen; and again in 1234, the same rivers were closed, and *loaded carriages traversed* the Adriatic sea on the *ice near Venice.* (*20°* centigrade, 4° Fahrenheit, *below zero*)

"A. D. 1236, the Danube closed for some
derable time.

"A. D. 1292, loaded carriages crossed the
below Brisach, and the Categat sound com
closed.

"A. D. 1302, Rhone frozen (—18° cen
Fahrenheit below zero.)

"A. D. 1305, the Rhone, and all the other
of France were frozen.

"A. D. 1323, the Rhone frozen. Travell
foot and horseback passed on the ice from De
to Lubec and Dantzic.

"A. D. 1358, ten feet of snow at Bologna ir

"A. D. 1364, the Rhone frozen to Arles;
carriages passed on the ice. —18° cent., —°.

"A. D. 1408, the Danube frozen in all its c
one sheet of ice from Norway to Denmark.
riages crossed the Seine on the ice.

"A. D. 1434, frost commenced at Paris, tl
of December, 1433, and continued during
months, less 9 days; recommenced towards t
of March and continued to the 17th of April.
same year it snowed in Holland 40 consecutiv

"A. D. 1460, the Danube and the Rhone

"A. D. 1493, the port of Genoa frozen.

"A. D. 1507, the port of Marseilles frozen
its extent. (—18° cent., at least, —°.4 Faht.
the day of Epiphany, 3 feet of snow fell at th
city.

"A. D. 1468, the wine had been reduced
and cut with an axe; and in 1544, a similar se
of cold in France.

"A. D. 1565, the Rhone was frozen to
(—18° cent., —°.4 Faht.)

"A. D. 1568, from the 11th to the 21st of D
ber, the Rhone passed on the ice. (—18° c
least.)

"The winter of 1570–1571, from the end c
vember to the end of February, was so sever

all the rivers, even those of Languedoc and Provence, were so completely frozen that they were passed with loaded carriages. (Mezerai.)

"A. D. 1594, the sea at Marseilles and Venice frozen. (—20° cent., —4° Faht.)

"A. D. 1603, loaded carriages passed the Rhone on the ice. (— 18° cent., —°.4 Faht.)

"The winter of 1621–1622, the Venitian fleet arrested by the ice in the lagoons of Venice; in 1638, a similar event with the French gallies at Marseilles; either event demanding a temperature of —20° cent. or — 4° Fahrenheit.

"(A. D. 1645, the Swedish army passed from Holstein into Zealand on the ice.)

"In the winter of 1655–1656, the Seine was closed from the 8th to the 18th of December. It was again frozen, without interruption, from the 29th of December to the 28th of January. A new frost recurred a few days after, and continued until in March. (Bouillaud.) The ensuing winter, 1657–1658, an uninterrupted frost from the 24th of December, 1657, to the 8th of February, 1658. Between the 24th of December and the 20th of January the cold was moderate, but afterwards acquired an extreme intensity. The Seine was entirely closed. A slight thaw took place on the 8th of February, but the frost again recurred and continued to the 18th. It was in 1658, that Charles X, king of Sweden, traversed the Little Belt with his army, artillery, caissons, baggage, &c.

"A. D. 1662–1663. Intense frost at Paris, from the 5th of December to the 8th of March.

"A.D. 1676–1677, continued and very intense frost from the 2d of December to the 13th of January; the Seine was closed 35 consecutive days.

"A. D. 1684, the Thames, at London, frozen 11 inches thick, and traversed by loaded wagons.

"A. D. 1709, (perhaps the most intense season which has ever occurred within the range of histo-

ry,) the Adriatic sea, and the Mediterranean
Genoa by Marseilles to Cette, frozen. All t
vers and narrow seas of Europe frozen. (
cent., —4° Faht.)

"A. D. 1716, booths erected on the Than
London.

"A. D. 1726, sledges passed from Copenha
Sweden.

"A. D. 1740, the Thames, at London, again f

"From 1749 to 1781, (33 years,) the thermor
in Provence, never fell below —9° cent. (20¾°]
This period of 33 years, afforded no instance of
of from 15° to 18° below zero, as formerly; som
sons already concluded that the climate had
rated; but in 1789, this illusion was dissipate
cause in that year, they experienced at Mar
a cold of —17° cent. 1°.4 Faht.

"From 1800 to 1819, the thermometer did n
below —9° cent., 15°.8 Faht., in the departm
the Mouths of the Rhone, but in 1820, as in sc
the remarkable seasons we have noticed in tl
talogue, they experienced a cold of —17½° ce
Faht. above zero.

"Thus, whether we consider the intensity o
or we examine at what intervals of time extr
nary cold is reproduced, we see no reason to
that in a period of 1400 years, the climate o
vence has varied worthy notice."

The facts and conclusion in these extracts
great force in deciding on the general princip
meteorological revolution. They ought to put
our guard against considering the temperatur
few years as sufficient to determine a revolut
phenomena so greatly varied as those of aerial
perature; and against forming comparative
mates of relative climate, as is usually do
greatly to the disadvantage of that of the U
States. The two subjoined tables taken fro
Annales de Chimie et de Physique, will serve
hibit the extremes of temperature in centr

of Europe. "Whenever the thermometer departs ever so little from its habitual limits, the public pay great attention to the range of that instrument, and, in general, are not slow in coming to the conclusion that they have never observed it so high or so low. The following table, in which I have collected the indication of the greatest degrees of cold and heat experienced at Paris and other points of the globe, since the invention of the thermometer, may be of some utility."*

No. LXXV.—*Maximum of Cold.*

Date.	Reaum.	Cent.	Faht.
	°	°	°
1665, February 6,	— 17.6	— 21.2	— 6.16
1709, January 13,	— 18.5	— 23.1	— 9.8
1716,	— 15.	— 18.7	— 1.22
1729,	— 12.2	— 15.5	+ 5.9
1742, January 10,	— 13.6	— 17.0	+ 1.4
1747, January 14,	— 10.9	— 13.6	+ 6.8
1748,	— 12.2	— 15.3	+ 4.46
1754, January 8,	— 11.3	— 14.1	+ 6.7
1755,	— 12.5	— 15.6	+ 5.92
1767,	— 12.2	— 15.3	+ 4.46
1768,	— 13.7	— 17.1	+ 1.22
1771,	— 10.9	— 13.6	+ 6.8
1776, January 29,	— 15.3	— 19.1	— 2.38
1783, December 30,	— 15.3	— 19.1	— 2.38
1788, December 31,	— 17.8	— 22.3	— 8.14
1795, January 25,	— 18.8	— 23.5	— 10.30
1798, December 26,	— 14.1	— 17.6	— .32
1820, January 11,	— 11.4	— 14.3	+ 6.26
1823, January 14,	— 11.7	— 14.6	+ 5.72

At Paris have occurred

In 1776, 25 days consecutive, of intense frost.
1783, 60 do. do.
1795, 42 do. do.
1798, 32 do. do.

* Annales de Chimie, &c.

No. LXXVI.—*Maximum of Heat.*

Date.	Reaumur.	Cent.	Faht.
	°	°	°
1705, Aug. 6,	+ 27.0	+ 33.8	+ 92.8
1706, Aug. 8,	+ 28.2	+ 35.3	+ 95.54
1753, July 7,	+ 28.5	+ 35.6	+ 95.7
1754, July 14,	+ 28.0	+ 35.0	+ 95
1775,	+ 27.8	+ 34.7	+ 94.46
1793, July 8th and 16th,	+ 30.7 & 29.8	+ 38.4 & 37.3	+ 98.54
1800, Aug. 18,	+ 28.4	+ 35.5	+ 95.9
1802, Aug. 8,	+ 29.1	+ 36.4	+ 97.52
1803,	+ 29.4	+ 36.7	+ 98.24
1808, July 15,	+ 29.0	+ 36.2	+ 97.16
1818, July 24,	+ 27.6	+ 34.5	+ 94.1

Having closed the collection of comparative tables on temperature and prevailing winds, I proceed to a summary review. It has been demonstrated, as far as the data in my analysis are admitted as authority, that agreeable to the laws of temperature stated in page 350, the winter cold over the United States, as every where else on earth, is in direct intensity with height, latitude, and exposure; and that the interior states being more exposed to the influence of a central, elevated, and frozen table land, have winters much more severe than experienced on similar latitudes on the Atlantic slope; and farther, that the interior summers are equally in excess.

These conclusions are drawn from the range of the thermometer, and from the freezing of rivers. So far, however, mere facts are stated, but it has been my wish to adduce the causes, and in pursuance of *that design* I have traced the prevailing winds of *the northern* temperate zone of the earth That the

air over this zone, though partially influenced by local features, does not derive its general course from the relations of land and water, has been shewn conclusively.

Ever since North America was peopled by English and French colonies, an opinion has prevailed that as the timber was removed the temperature was raised, or, in other words, the winter seasons had gradually become milder. Employed 10 or 12 years in exploring the prairies of Louisiana, I had ample means to test the seasons of a country naturally devoid of forest trees, and in the frequent and sometimes not slight snows of Opelousas, N. lat. 30½°, I, as early as 1805, became convinced that removing timber must produce the very reverse of melioration, and then suspected, what is now proven, that in very open countries the range of the thermometer must be augmented. These ideas were thrown out in my Louisiana, and still farther in my Emigrant's Guide, and Geographical Dictionary, and encountered some obloquy. It was obloquy which I felt lightly, trusting to time, and not in vain.

One of the best statistical writers in Europe, the Abbe Rosier, in his *Cours d'Agriculture*, derives from the removal of forests the cause why the vines in some part of France have perished, where two centuries past they were cultivated in open fields. It was evident to this philosophic expounder of nature, that removing shelter must have the same effect which would happen by opening a window exposed to the north-west, that is, increase of cold.

Independent, however, of the thermometer or freezing of rivers, vegetables afford most precious atmospheric indicia. One of these criteria I had full opportunity to examine. I surveyed southern Louisiana, from the Sabine eastward, and found the live oak, quercus sempervirens, flourishing along the rivers *in the Delta* and vicinity; but when the *great body of woods*, which bounds the Delta, above

the marshes and prairies, is passed, and the north-west winds from Texas have full sweep along the Calcasiu and Sabine, the live oak ceases. In the Delta this vegetable is found as high as N. lat. 30° 22′, rising to the majesty of a forest tree; yet in its utmost range in the basin of Mississippi, this and the Chaemerops, or dwarf palm, cease far south of their limit on the Atlantic coast; the large palm (cabbage tree) is not found in Louisiana. The live oak rises to considerable height and column as high as the mouth of Cape Fear river, N. lat. 34°, full 3½° beyond its greatest northern residence in the central basin.

In Louisiana the orange tree cannot be cultivated to much advantage above N. lat. 30°, and ceases altogether about a degree farther north. The sugar cane, with a slightly higher locality, does not flourish beneficially much above the orange. Both these vegetables are profitably cultivated along the Atlantic coast as high as N. lat. 33° 30′. "The sweet or China orange begins to be cultivated in the open air in South Carolina, near the town of Beaufort, 33° 25′, where large groves are to be met with, not only for ornament but fruit. On the islands of Georgia they are cultivated extensively, and with great profit. The sugar cane, both Creole and Otaheite, grows into a crop, so as to be profitable, from Sapelo island 31° 30′, near the mouth of the Alatamahah, on to Florida. The cane has ripened very well at Savannah, N. lat. 32° 05′, and has been with partial success attempted so far north as Beaufort district, South Carolina, lat. 33° 30′."*

We thus find tender vegetables, either growing indigenous, or cultivated as objects of emolument, on latitudes along the Atlantic coast, where no art could produce a similar effect directly west on the Mississippi. Natches stands on a hill, or series of

* *N. A.* Ware, Esq. to the author of this View.

ills, about 100 feet above the ordinary level of the Mississippi at N. lat. 30° 33,′ almost directly west om Sapelo island, and at Natches or even on the low anks of the Mississippi, opposite that city, neither ie orange or cane could be cultivated. The ther- iometer whilst I myself resided in the vicinity fell 12° above zero, near that city, in December 1799.

No winter passes at Natches without severe frost, nd snows are there annual and not seldom deep, nd resting on the ground from 5 to 10 or 12 days. once, January 1812, witnessed a snow at Opelousas 1 inches deep, which did not entirely disappear in ss than 7 or 8 days.

The freezing of rivers is also a most conclusive omparative test of climate. The Ohio and all its ranches, as well as other rivers more westward, re more deeply, frequently, and longer frozen than iose on the Atlantic slope by a difference of 3 or degrees of latitude.

Having established the very important fact in eteorology, that the wind of the United States rms only a part of a general, if not universal, cur- ent of air which sweeps round the world over the orthern temperate zone, deriving its course from ie motion of the earth itself, combined with the fects of heat and cold on the atmosphere. Having emonstrated that aerial temperature in the United tates depends, as elsewhere, for its intensity upon elative latitude, elevation, and exposure, the con- usion follows that the supposed mildness of the hio valley, so much insisted upon by Volney and hers, has really no existence, but that on the very ontrary, the cold of winter is several degrees more evere in the interior than on the Atlantic border of ie United States, upon any given latitude.

If we turn to the tables, and analyse their con- nts, we discover that the wind from the Pacific ean over North America, the Atlantic ocean, and estern Europe, is by great excess from the west-

ern side of the meridians. So constantly do the prevailing currents of air set from the west over the continent of North America, that the orchards and forests generally, particularly along the Atlantic slope, invariably incline to the eastward or south-eastward. This interesting phenomenon may be seen by any person travelling along the roads, and it is in an especial manner discernible if the traveller is passing in an east or west direction.

The prevalence of such universal current carries the moisture of the Atlantic on the western coasts of Africa and Europe, and indeed in a greater or less extent produces a mildness or uniformity of annual temperature on western, and severity, or extremes of temperature, on eastern coasts. This exposition of climate was laid before my classes in Philadelphia, in January and February 1821, and formed part of a Course of Lectures on the particular climate of the United States. Recently I have had the pleasure to peruse the American Quarterly Review, No. VI., and found at pages 529—31, under Art. North-west Passage, the following:

"It has been universally admitted that, the latitude being the same, western coasts are more temperate; and the neighbouring continent [America] gives us positive evidence of this. "The vegetation," says Chiamisso, "in the interior of Kotzebue's sound [under the arctic circle N. lat. 66° 30′—66° 42′] is constantly higher (more advanced) than in the interior of St. Lawrence's bay. The willows are higher, the grasses richer, all vegetation more juicy and stronger." Kotzebue, who had the command in this voyage, says, "Ice and snow maintained their rule here (in Asia) since last year, and in this state we find the whole coast; while in America, even the summits of the highest mountains are free from snow; there the navigator sees the coast covered with a green carpet, while here (Asia) black massy rocks frown upon us with snow and icicles."

"Isothermal lines drawn from this part of America, would incline much to south, making very oblique ones. While vegetation is green and flowery in Kotzebue's sound, in 66° 42′ 30″, desolation pervades the coast of Labrador, in 55°, and perpetual frost rules at 60° on the coast of Greenland. A determined push to double the Icy Cape, could scarcely fail to be successful, unless the summer should be shorter and colder than usual."

"For the discovery of the existence of a passage over this part of the Polar sea, (north from North America,) we feel assured the voyage has always been commenced where it ought to have terminated. The voyage should be made *with*, and not *against* the currents. There is much difference between stemming a current surcharged with ice, and sailing or floating with it. Parry was six weeks making Melville Island, from the entrance of Sir James Lancaster's sound, 600 miles, which, on his return to the eastward, was run in six days. Captain Franklin sailed from Copper Mine river in two canoes to Point Turnagain, having coasted the shore for 555 geographical miles [nearly east and west, between lat. 67° and 68°, equal to about 200 English miles,] with little or no difficulty. This distance in a direct line, would have taken him to the coast opposite Repulse bay. We are yet without accurate observations on the force of the currents, into and out of the Polar sea. Kotzebue's calculations certainly seem to us to be extravagant. He supposed the current to pass northwardly through Bhering's strait, at the rate of two miles per hour. This is more than double the rapidity mentioned by Cook. That the current flows perpetually to the north through this strait, can no longer be doubted. The testimony of the two navigators mentioned above, as well as that of Clerke and Glolotoff, establishes the fact beyond contradiction. It has been stated, that the commander of this Russian expedi-

tion having passed round Icy Cape, was somewhat alarmed, lest he should not be able to overcome the current on his return."

That the attempt to circumnavigate North America from the east, was proceeding in direct opposition, not alone to the ocean currents, but what was of greatly more consequence, against prevalent winds, and that if ever a navigable opening was found round the northern coast of North America, or to render such a passage useful when found, it must be navigated from the west, were the postulata, on which my lectures on climate were founded. If I had had my own choice, I could have demanded no more decisive evidence from actual experiment, to sustain my theory, than has been afforded by the voyages of Kotzebue, Parry and Franklin, and by recent meteorological observations made in the United States and Europe.

In my lecture room I had maps and charts, with isothermal lines drawn upon them, in order to trace the cause and demonstrate the principles in nature from which followed as a necessary effect, the regular eastern currents of air over the temperate zones, and polar circles of the earth; and of course, why western must have a more uniform aerial temperature and more moist atmosphere on a given latitude than eastern coasts. I then showed satisfactorily why tender fruits, and the cereal gramina, were cultivated on western Europe so much more northward than on the eastern coasts of America and Asia.

With but slight modification from difference of local features, every observation made in this chapter respecting the northern, will apply to the southern temperate zone, and particularly to voyages of discovery attempted towards the southern pole. To give any rational probability of success, the vessels ought to proceed in both instances eastward from the meridians. To explore the southern

polar circle, the course ought to be south-eastward from America, Africa, and New Holland. It may appear to some, presumptuous for any individual inexperienced as a navigator, to speak thus positive from his desk; but would not candour acknowledge that the inductions are fair from the adduced facts?

I have been the more particular in the elucidation of climate, and on the exposition of the combined effects of temperature and prevailing winds, as I have found in books of no ordinary character the theory stated, that the local temperature of given places not only could, but had underwent radical change. The natural bent of the human mind generally inclines to melioration, and supposes that clearing the surface of the earth of trees softens the winters of both Europe and America. When, however, we quit the uncertainty of hypothesis and proceed to reason from fact, what are our conclusions? At a single glance on a map, we find that even on the northern temperate zone, and northern polar circle where land is most engrouped, so much of the surface of the earth admits of no possible modification by man, that all his labours comparatively disappear in a general view. Oceans, extensive seas, northern frozen and uninhabitable regions, extensive naked and unchangeable plains and mountains, forming so very great proportion of the entire surface, renders all the labour of man an inconsiderable datum in the list of natural causes, and leaves the mind, when investigating meteorology, to regard past and present ages as an impassable PRESENT. When we are taught that the planet is moving round its primary, in a given and unvarying orbit; when we advance nearer, and are shown, that this planet is enveloped by an atmosphere extremely susceptible to the influence of heat, but that this atmosphere is a ponderous body carried round with the more solid parts of the planet, and again, when we examine the phenomena of aerial motion, we are led by every prin-

ciple of reasoning to regard the revolutions of the atmosphere as permanent in their recurrence as are the causes from which those changes emanate.

William Dunbar of Natchez, formerly of Scotland, well known when living as amongst the most diligent observers, and most scientific men of his adopted country, resided between thirty and forty years near Natchez, at about N. lat. 31° 28′. The education and indefatigable attention of this philosopher to the phenomena of nature, and the abundant means placed at his disposal by an ample fortune, put him, as far as the southern climate of the Mississippi basin is concerned, at the very head of all observers.

After recounting the phenomena of the great sleet and snow storm of that country, which occurred in the end of January and first of February 1800, and some other meteorological changes of that year, Mr. Dunbar states expressly that on the 12th of December, 1800, the thermometer at his house fell to 12° above zero, and proceeds thus:

"It is with us a general remark that of late years the summers have become hotter, and the winters colder, than formerly. Orange trees, and other tender exotics, have suffered more in the neighbourhood of New Orleans within these four or five years, than before that period; the sugar cane also has been so much injured by the severity of the first of the two last winters, as greatly to discourage the planters, whose crops in many instances have fallen to one-third, or less, of their expectations. In former years I have observed the mercury of the thermometer not to fall lower than 26° or 27°; but for a few years past it has generally, once or twice in the winter, fallen as low as from 17° to 20°, and on the 12th December, 1800, as above noticed, it was found sunk to 12°, which has hitherto had no parallel in this climate; indicating a degree of cold, which in any country would be considered consider-

able, and probably may never again be produced by natural means in lat. 31° 30′."*

"As this apparent alteration of climate, has been remarked only for a few years, and cannot be traced up to any visible, natural, or artificial change of sufficient magnitude, it would be in vain to search for its physical cause. Dr. Williamson and others have endeavoured to show that the clearing, draining, and cultivation extended over the face of a continent, must produce the double effect of the relaxation of the rigors of winter, and an abatement of the heats of summer. The former is probably more evident than the latter; but admitting the demonstration to be conclusive, I would enquire whether a partial clearing, extending 30 or 40 miles square, [or to 300,000, or 3,000,000] may not be expected to produce a contrary effect, by admitting with full liberty the sunbeams on the uncovered surface of the earth in summer, and promoting during winter a free circulation of cold northern air."†

Mr. Mackenzie, after remarking on the sterile

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* In December, 1800, I was myself residing about 8 miles from Natchez, and about 13 miles from Mr. Dunbar's house. I can attest the great severity of the season; but as I resided on the southern part of the Mississippi basin until 1815, and was upwards of 10 years of the time almost constantly exposed to the open air, I am fully persuaded that December 1800 was by no means the utmost severity of cold I witnessed in that region. In February, 1807, the creeks between Natchez and Red river were frozen, and in many instances to more than an inch in thickness. In January, 1812, snow fell at Opelousas, N. lat. 30° 30′, to a depth of 11 inches; and in the latter days of December, 1814, the ponds and lagoons around New Orleans were frozen so as to admit half grown boys to skate or play on the ice.

† Transactions of the American Philosophical Society, vol. vi. p. 40.

Boreal regions of North America, continues to observe, "The climate must necessarily be severe in such a country as we have described, and which displays so large a surface of fresh water. Its severity is extreme on the coast of Hudson's bay, and proceeds from its immediate exposure to the north-west winds that blow off the Frozen ocean. These winds cross directly from the bay over Canada, and the British dominions on the Atlantic, as well as over the eastern states of North America, to that ocean; where they give to that country a length of winter astonishing to the inhabitants of the same latitudes in Europe.

"These winds even continue to retain a great degree of force and cold in their passage over the Atlantic, particularly at the time the sun is in its southern declination. The same winds which come from the Frozen ocean, over barren grounds and across frozen lakes and snowy plains, bounded by rocky mountains, lose their frigid influence as they travel in a southern direction till they get to the Atlantic ocean, where they close their progress.

"Is not this a sufficient cause for the difference between the climate in America and that of the same latitude in Europe?"

"It has been frequently advanced that the clearing away the wood has had an astonishing influence in meliorating the climate in the former; but I am not disposed to assent to that opinion in the extent which it proposes to establish, when I consider the very trifling proportion of the country cleared, compared with the whole. The employment of the axe may have had some inconsiderable effect; but I look to other causes. I myself observed in a country which was in an absolute state of nature, *that the climate is improving;* and this circumstance was confirmed to me by the native inhabitants of it. Such a change, therefore, must proceed from some predominating operation in the system of the globe,

ich is beyond my conjecture, and indeed above comprehension, and may, probably, in the rse of time, give to America the climate of Eu-e.

The climate on the west coast of America, as-ilates much more to that of Europe in the same :udes. I think very little difference will be found, ept such as proceeds from the vicinity of high ıntains covered with snow. This is an additional of that the difference in the temperature of the proceeds from the cause already mentioned."*

I. de Humboldt alludes to this passage in Mac-zie's travels, in his political essay on New Spain, ıese words: "It is even believed by the Indians, ıe vicinity of the north-west coast, that the win-are becoming milder yearly. This mildness of ıate appears to be produced by the north-west ds, which pass over a considerable extent of sea.

Mackenzie, as well as myself, believes that the ıge of climate observable throughout all North erica, cannot be attributed to petty local causes; ıe destruction of forests for example.†"

ere we have in the examples of two of the most ıectable and extensive travellers who, from Eu-, have visited and traversed America, instances ıat greatest defect in human reasoning; that is, ming a postulate and then proceeding as if it an established theory. Both have, with much l sense, rejected one popular error, that clearing w thousand square miles from wood could per-ently, in any country, affect its mean tempera-, and yet both supposed a real change in opera-

The credulity of M. Humboldt is the more ıge, as the following observations occur in his ıonal Narrative. After an elaborate discussion

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ckenzie's *Voyages*. New York edition, p. 286—292.
itical Essay, vol. ii. p. 258.

on the mean temperature of land and water, he continues: "These investigations are highly interesting to the physical history of our planet. Does the quantity of free caloric remain the same through thousands of years? Have the mean temperatures corresponded to different parallels, augmented or diminished since the last revolution which has altered the face of our globe? We cannot answer these questions in the present state of our knowledge. We are ignorant of every thing that relates to a general change of the climates, as we know not whether the barometric pressure of the atmosphere, the quantity of oxygen, the intensity of the magnetic powers, and a great number of other phenomena, have undergone any change since the time of Noah, of Xisuthris, or Menou. It is only by the comparison of a great number of observations, made in different parallels of latitude, and at different degrees of longitude, that we shall be able to solve the important problem of the increase or diminution of the heat of the earth."*

It is evident from the strain of this quotation, and from the tenor of the general scope of his reasoning on the subject, that M. de Humboldt considered a permanent revolution in the mean temperature of any given place as very problematical; and that, if the occurrence of such revolution was admitted, the operations by which it was performed must have been extremely slow, and the effects on vegetation and the congelation of water only perceptible in the long course of many ages;—and farther, that a change in barometric pressure, or in other words, on the quantum or composition of the atmosphere, is an indispensable requisite in such a revolution.

In fine, it may be fairly inferred, though not so directly expressed, that the opinion of this great philosophical traveller was, that a radical meteoro-

* Personal Narrative, page 283.

al revolution could be possible, only from a ge in the present order of things on this planet, that as long as the earth revolves in her orbit, her present distance from the centre of motion, her axis inclined as it is to the ecliptic, and st the two great elements on her surface, air water, retain their constituent organization and ive quantity, so long will the mean tempera- of any given part of the earth maintain a near lity in a cycle of a few years.

ese conclusions are rationally drawn from the of all history. View human beings in their ions with domesticated animals and cultivated tables, and we find in the same countries, that the earliest ages, similar modes of life were ued. The bread-producing, the viniferous, and ginous plants; the horse, camel, sheep, elephant, remain restricted to the same geographical s, over which the vegetables grew and the ani- roamed since human observations were put on rd.

is no hazard to assert, after the proofs adduced, the interior of the United States has a natural ate in perfect accordance with its relative posi- and height. That the climates on the opposite of the western continent exhibit the same spe- differences found to exist on like extremes of pe and Asia. On any given place in the tem- te zones of our planet, great discrepancies of n temperature will occur in successive short ods of time, but in a cycle of 20 or 30, or at most ears, all the possible extremes will be included.

CHAPTER XI.

POLITICAL GEOGRAPHY OF THE UNITED STATES.

As a physical section of the earth, the relative position, outlines and geographical extent of the United States, have been given in Chap. II, pages 56 and 57; the great natural features have been traced in detail, in the succeeding parts of this view. In the present chapter it is my intention to trace the political subdivisions, and the existing general and relative population. I may here apprize the reader, that there are many subjects of importance which neither the brevity or scope of the view will admit. My purpose in writing the view was, geographical delineation, and not political disquisition; therefore, whenever the latter is introduced, it is incidental.

The original of the ample tables on population, were published in my Geographical Dictionary. The numbers in table 79 are it is true, speculative in some measure, and in their ultimate aggregate, present a mass well calculated to excite astonishment; but it ought to be observed, that the Anglo-American colonies are the only instances ever afforded on earth, where the human species had a fair and ample chance of rapid and steady accumulation. The augmentation thus far, has excited surprise, and in Europe incredulity, more from the novelty, than from any intrinsic anomaly in physiology. Where man labours for himself, and where the fruits of his labour are secured to him, and where the nation and the government are the same identical body, there is no assignable limit to population. There has perhaps never yet been a well governed and surplus number of people in existence, and it may be doubted whether such a phenomenon is possible.

XVII.—*Population of the United States by the census of* 1810 *and* 1820.

te or Territory.	Extent Sq. Miles.	Population 1810.	Population 1820
ama	51,770		143,000
nsas	121,340		14,273
ecticut	5,050	261,941	275,248
nbia District	100	24,023	33,039
ware	2,100	72,674	72,749
da	54,000		10,000
gia	61,000	252,433	340,989
is	58,900	12,282	55,211
na	34,000	24,520	147,178
ucky	37,680	406,511	564,317
iana	48,220	76,556	153,407
e	32,200	228,705	297,839
land	10,000	380,546	407,350
achusetts	7,330	472,040	521,725
gan	174,000	4,762	10,000
ssippi	45,760	40,352	75,448
uri	66,000	20,845	66,586
Hampshire	8,710	214,460	244,155
Jersey	7,800	245,662	277,575
York	46,500	959,049	1,372,812
Carolina	50,000	555,500	638,829
	39,000	230,760	581,434
sylvania	47,000	810,091	1,049,458
e Island	1,100	76,931	83,059
Carolina	33,470	415,115	502,758
essee	40,000	261,727	422,813
ont	9,400	217,895	235,764
nia	70,000	974,622	1,065,304
ern Territory	1,254,700		
	2,257,300	7,239,903	9,663,313

The classified and progressive population of the United States, are exhibited in

No. LXXVIII.—*Population in* 1810.

Free white males	2,988,141
do. do. females	2,873,952
Total whites,	5,862,093
All other persons except Indians, not taxed,	186,446
Slaves,	1,191,364
Total population 1810,	7,239,903

Population in 1820.

Free white males,	3,992,166
do. do. females,	3,863,916
All other persons except Indians, not taxed,	4,631
Total whites,	7,860,713
Free persons of colour, males,	112,703
do. do. do. females,	120,695
Slaves, males,	784,671
do. females,	746,765
	9,625,547

Of these,

Foreigners not naturalized,		53,655
Engaged in Agriculture,		2,065,547
do. in Manufactures,		349,247
do. in Commerce,		72,397
Population in 1790,	3,929,328	
1800,	5,306,035	
1810,	7,239,903	
1820,	9,663,313	
Calculated for 1828,	13,172,912	

That part of the United States embraced by the census of 1820, comprised an area of 600,000 square

miles, within a trifling fraction, nor has the subsequent extension of population in the last 8 years, materially enlarged the actually inhabited territory. If therefore we assume 600,000 square miles, as the really populated part of the United States, and in round numbers suppose the aggregate inhabitants to amount at this moment, September 1828, to 13 millions, the distributive population would be only 21 and 66 hundredths to the square mile. This estimate is made however, as well as the subjoined table, upon the data afforded by the Census of 1820, which gave, it is probable, an aggregate far below reality. The real number of inhabitants in the United States, was I am well convinced, above 10 millions in 1820, and at this time exceeds considerably 13 millions. In using, therefore, the latter number, we are safe, and would risk no great error by giving 22 to the square mile, as the existing distributive population. With these preliminary remarks, the following table is extracted from my Geographical Dictionary.

No. LXXIX.—*Estimated progressive population of the United States, from the first Census in* 1790 *to* 1940, *or through a period of* 5 *generations of* 30 *years each.*

	Aggregate.	White.	Coloured.
1790	3,929,328		
91	4,057,031		
92	4,188,884		
93	4,325,022		
94	4,465,595		
95	4,610,826		
96	4,750,677		
97	4,905,073		
98	5,064,487		
99	5,229,082		
1800	5,399,026		
1	5,564,293		
2	5,745,132		

	Aggregate.	White.	Coloured.
1803	5,931,848		
4	6,114,633		
5	6,313,358		
6	6,518,542		
7	6,730,394		
8	6,949,230		
9	7,175,080		
1810	7,408,270	5,880,000	1,528,270
11	7,649,038	6,071,100	1,577,938
12	7,897,631	6,268,510	1,629,121
13	8,154,303	6,472,236	1,682,067
14	8,419,317	6,682,683	1,736,694
15	8,692,943	6,900,000	1,792,943
16	8,975,462	7,124,500	1,850,962
17	9,267,164	7,355,770	1,911,394
18	9,567,345	7,594,832	1,972,513
19	9,878,283	7,841,664	2,036,619
1820	10,199,327	8,096.518	2,102,809
21	10,530,805	8,359,654	2,170,151
22	10,873,155	8,632,342	2,240,813
23	11,226,532	8,912,894	2,313,638
24	11,591,394	9,202,562	2,388,832
25	11,968,114	9,501,645	2,466,469
26	12,356,677	9,810,448	2,546,229
27	12,758,269	10,129,287	2,628,982
28	13,172,912	10,458,487	2,714,425
29	13,602,031	10,798,387	2,803,294
1830	14,043,064	11,149,333	2,893,731
31	14,499,463	11,511,686	2,987,777
32	14,970,695	11,884,815	3,085,880
33	15,457,292	12,271,071	3,186,221
34	15,959,602	12,669,878	3,289,724
35	16,478,289	13,082,516	3,395,773
36	17,013,883	13,507,697	3,506,186
37	17,566,782	13,846,697	3,719,085
38	18,137,702	14,296,714	3,840,988
39	18,727,177	14,761,357	3,965,820
1840	19,335,810	15,241,101	4,114,709
41	19,915,984	15,698,334	4,217,650

	Aggregate.	White.	Coloured.
1842	20,513,455	16,169,283	4,344,170
43	21,128,856	16,654,359	4,474,467
44	21,862,721	17,153,988	4,708,733
45	22,518,602	17,668,605	4,849,997
46	23,250,000	18,198,663	5,051,337
47	23,947,500	18,744,621	5,202,879
48	24,665,925	19,306,959	5,358,966
49	25,405,902	19,885,966	5,519,936
1850	26,168,079	20,412,000	5,756,079
51	26,953,121	21,024,918	5,928,203
52	27,761,714	21,655,665	6,106,049
53	28,594,565	22,205,333	6,389,232
54	29,452,402	22,871,492	6,581,910
55	30,335,974	23,557,624	6,778,340
56	31,246,053	24,263,362	6,984,584
57	32,183,435	24,991,261	7,191,132
58	33,148,938	25,740,997	7,407,961
59	34,143,406	26,512,224	7,631,182
1860	35,167,708	27,307,590	7,860,118
61	36,222,739	28,126,815	8,095,924
62	37,349,420	28,970,619	8,338,801
63	38,428,702	29,839,737	8,588,965
64	39,581,563	30,734,928	8,846,635
65	40,769,010	31,656,975	9,102,036
66	41,992,080	32,606,682	9,385,408
67	43,251,842	33,584,880	9,666,962
68	44,649,397	34,592,524	10,056,863
69	45,988,878	35,630,399	10,358,479
1870	47,368,544	36,699,308	10,669.236
71	48,789,600	37,800,287	11,189,313
72	50,253,288	38,934,293	11,318,995
73	51,762,886	40,192,219	11,868,667
74	53,315,772	41,305,285	12,010,487
75	54,915,245	42,545,441	12,369,804
76	56,562,702	43,821,793	12,740,909
77	58,259,583	45,136,444	13,123,139
78	60,007,370	46,490,536	13,516,834
79	61,807,591	47,895,521	14,912,070
1880	63,661,808	49,332,107	14,329,701

	Aggregate.	White.	Coloured.
1881	65,571,662	50,812,070	14,759,592
82	67,538,811	52,436,430	15,102,381
83	69,564,975	54,009,522	15,555,453
84	71,651,924	55,629,807	16,022,117
85	73,801,481	57,298,701	16,502,780
86	76,015,525	59,037,662	16,977,863
87	78,295,990	60,808,790	17,487,200
88	80,644,869	62,633,051	18,018,818
89	83,064,215	64,512,041	18,552,174
1890	85,656,141	66,447,401	19,208,740
91	88,225,625	68,440,823	19,785,000
92	90,872,959	70,494,047	20,378,912
93	93,598,776	72,608,867	20,989,969
94	96,406,739	74,787,131	21,619,608
95	99,298,941	77,030,744	22,268,197
96	102,277,909	79,341,665	22,936,244
97	105,346,246	81,711,913	23,634,333
98	108,505,633	84,163,270	24,343,363
99	111,761,832	86,688,166	25,073,666
1900	115,114,687	89,288,809	25,825,878
1	118,568,127	91,987,473	26,580,654
2	122,125,160	94,747,095	27,278,065
3	125,788,914	97,589,505	28,199,309
4	129,562,581	100,517,190	29,045,391
5	133,449,458	103,532,703	29,916,755
6	137,452,941	106,638,684	30,814,257
7	141,756,529	109,837,852	31,918,677
8	145,823,824	113,132,986	32,976,235
9	150,198,538	116,526,973	33,955,521
1910	154,704,494	120,022,780	35,074,186
11	159,345,628	123,623,361	36,126,409
12	164,125,996	127,332,060	37,210,201
13	169,049,776	131,151,920	38,326,507
14	174,121,269	135,086,477	39,476,302
15	179,344,907	139,139,069	40,660,591
16	184,725,254	143,313,259	41,880,406
17	190,267,011	147,613,655	43,136,818
18	195,975,021	151,042,043	44,439,922
19	201,854,271	156,573,303	45,763,849

	Aggregate.	White.	Coloured.
1920	207,210,000	160,240,502	47,136,763
21	214,147,193	165,047,717	48,550,864
22	220,571,608	169,999,148	50,007,388
23	227,188,756	175,099,121	51,507,607
24	234,004,418	180,352,094	53,052,835
25	241,024,530	185,762,654	54,644,419
26	255,702,444	191,335,532	56,283,751
27	263,374,032	197,075,597	57,972,262
28	271,275,253	202,987,962	59,711,428
29	279,413,510	209,077,000	61,502,770
1930	287,795,915	215,350,000	63,347,851
31	296,419,000	221,311,000	65,238,285
32	305,312,000	228,465,000	67,195,431
33	314,371,000	235,319,000	69,211,293
34	323,905,000	244,379,000	71,287,629
35	333,623,000	246,650,000	73,425,257
36	343,631,000	257,140,000	75,528,013
37	353,940,000	264,854,000	77,793,853
38	364,558,000	272,800,000	80,127,607
39	375,494,740	280,984,000	82,531,435
1940	386,769,572	289,412,000	85,000,000

Relative increase of the white and coloured classes.

Date.	1790	1800	1810	1820
Total,	3929328	5319762	7239903	9663226
Free,	3227046	4429881	6074562	8110108
Slaves,	694280	889118	1165441	1538118
Proportion of Slaves to Free,	$\frac{177}{1000}$	$\frac{167}{1000}$	$\frac{160}{1000}$	$\frac{159}{1000}$

The result of this table astonishes by its mass, but ho could have, at the epoch of the revolution, anicipated the actual increase? The arithmetical rinciples on which the table was constructed, were ne positive increments of three periods, 1790 to

	Aggregate.	White.	Coloured.
1881	65,571,662	50,812,070	14,759,592
82	67,538,811	52,436,430	15,102,381
83	69,564,975	54,009,522	15,555,453
84	71,651,924	55,629,807	16,022,117
85	73,801,481	57,298,701	16,502,780
86	76,015,525	59,037,662	16,977,863
87	78,295,990	60,808,790	17,487,200
88	80,644,869	62,633,051	18,018,818
89	83,064,215	64,512,041	18,552,174
1890	85,656,141	66,447,401	19,208,740
91	88,225,825	68,440,823	19,785,000
92	90,872,959	70,494,047	20,378,912
93	93,598,776	72,608,867	20,989,969
94	96,406,739	74,787,131	21,619,608
95	99,298,941	77,030,744	22,268,197
96	102,277,909	79,341,665	22,936,244
97	105,346,246	81,711,913	23,634,333
98	108,505,633	84,163,270	24,343,363
99	111,761,832	86,688,166	25,073,666
1900	115,114,687	89,288,809	25,825,878
1	118,568,127	91,987,473	26,580,654
2	122,125,160	94,747,095	27,278,065
3	125,788,914	97,589,505	28,199,309
4	129,562,581	100,517,190	29,045,391
5	133,449,458	103,532,703	29,916,755
6	137,452,941	106,638,684	30,814,257
7	141,756,529	109,837,852	31,918,677
8	145,823,824	113,132,986	32,976,235
9	150,198,538	116,526,973	33,955,521
1910	154,704,494	120,022,780	35,074,186
11	159,345,628	123,623,361	36,126,409
12	164,125,996	127,332,060	37,210,201
13	169,049,776	131,151,920	38,326,507
14	174,121,269	135,086,477	39,476,302
15	179,344,907	139,139,069	40,660,591
16	184,725,254	143,313,259	41,880,406
17	190,267,011	147,613,655	43,136,818
18	195,975,021	151,042,043	44,439,922
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26	255,702,444	191,335,532	56,283,751
27	263,374,032	197,075,597	57,972,262
28	271,275,253	202,987,962	59,711,428
29	279,413,510	209,077,000	61,502,770
1930	287,795,915	215,350,000	63,347,851
31	296,419,000	221,311,000	65,238,285
32	305,312,000	228,465,000	67,195,431
33	314,371,000	235,319,000	69,211,293
34	323,905,000	244,379,000	71,287,629
35	333,623,000	246,650,000	73,435,257
36	343,631,000	257,140,000	75,528,013
37	353,940,000	264,854,000	77,793,853
38	364,558,000	272,800,000	80,127,607
39	375,494,740	280,984,000	82,531,435
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The result of this table astonishes by its mass, but who could have, at the epoch of the revolution, anticipated the actual increase? The arithmetical principles on which the table was constructed, were the positive increments of three periods, 1790 to

1800, 1800 to 1810 and 1810 to 1820. Assuming 3,929,328, the population at the commencement of these periods, a ratio of 3¼ per cent up to their termination in 1820, yields results very nearly commensurate with the real enumerations. In order, however, to be within moderate limits, the ratio of 3¼ per cent was only continued to 1840, and from thence 3 per centum for the whites, and a slightly decreasing ratio for the coloured caste.

It may not be irrelevant to make some comparative estimates of the distributive population of the United States, as it is stated prospectively in 1940. Rejecting for mountains, sterile plains, and other places incapable of dense population, 727,300 square miles, will leave to the United States 1,500,000 square miles, equal as an aggregate to as great an extent of southern and central Europe, in respect to soil, climate or commercial facility. If we suppose 386 millions distributed over one million five hundred thousand square miles, it gives 257 and a small surplus fraction to each. This falls far short of some large districts of Europe. It is now a well established fact, that the general population of Europe is slowly, and in some of the already dense sections, rapidly on the increase, and those who deny to the territory of the United States, limited as I have reduced the habitable extent, an equality to Europe, have studied comparative geography to little purpose, and those who deny or neglect the influence on population, of moral and political causes, are badly qualified to decide upon the philosophy of history. Volumes of vicious legislation compose the far most onerous burthen on human beings, and one parchment roll may either make room for millions and provide for their comfortable subsistence, or it may spread disease, misery and death amongst a few scattered thousands. Under the existing state of legislation, and it is far from perfect, the plains of Missouri will soon swarm with an active popula-

tion, and the silks of Asia be imported to and worn on the banks of Columbia.

The preceding views are general, and exclude any reference to difference of caste. Hitherto the white caste possessed advantages which secured a small fraction more rapidity of increase over the coloured; the difference of moral condition is not likely to essentially change, and consequently, the relative numbers will remain not far from stationary. In a view so general as the present, it is unnecessary to make any distinction in the coloured caste, between those actually slaves, and those who are nominally free, as their degraded condition in the estimation of the whites, exposes the free coloured to all the worst evils of slavery, and so deeply cut and invariably placed is this mental mark of inferiority, that it operates as a seal of corruption on every face where African blood can be suspected. In the eye of reason such distinction is absurd, but we must write and even legislate upon human opinion as it is, and not upon what it is not.

There is another and a most momentous point of view, in which the population of the United States may be placed; that is, the certain change of the seat of power, by the motion of central force, from the Atlantic slope, into the central basin. By turning to table 15, page 254, it will be seen that the United States part of the Atlantic slope, amounts to 52,300 square miles, whilst tables 19 and 20, pages 295 and 297, will render it evident, that excluding the immense regions of Missouri, more than one million of square miles spreads in the central valley. With every rational deduction, the capabilities of the interior section to sustain population exceed that of the Atlantic slope as 4 to 1. How rapidly the political importance of the central valley is advancing, may be seen by the following:

No. LXXX.—Population of

Alabama	1810	000,000	1820	143,000
Arkansas	1810		1820	14,273
Illinois	1810	12,282	1820	55,211
Indiana	1810	24,520	1820	147,178
Kentucky	1810	406,511	1820	564,317
Louisiana	1810	76,556	1820	153,407
Michigan	1810	4,762	1820	10,000
Mississippi	1810	40,362	1820	75,448
Missouri	1810	20,845	1820	66,586
Ohio	1810	230,760	1820	581,434
Tennessee	1810	261,727	1820	422,813
		1,078,325		2,233,667

In this estimate, no notice is taken of western V
ginia, Pennsylvania and New York, but restricte
whole organized states and territories, and emb
ces an area of about 745,000 square miles, or c
a distributive population of 4 to the square m
We have here, therefore, an immense space ec
to the one fourth part of all Europe, on which i
have only recently placed their residence,
where their dwellings are still few and scattered,
where numbers are doubling decennially. The
isting population in the central basin amounts t
least 3,300,000, and whilst the entire numbers in
United States have increased in 38 years, from ab
4 to 13 millions, the interior mass, has in a sim
period, augmented from 100,000 to 3,300,000, dem
strating a powerful gravitating force westward.

When we carry into this analysis, the increa
and increasing facility of intercommunication,
still prodigious disparity of relative density of p
ulation, and consequent cheapness of land in
west, we are fully warranted in assuming as a b
of calculation, that the respective ratio of incre
between the sections, will continue to maintai
least as great inequality as heretofore. On the p

ceding supposition, the central population would double every 10 years; but to be within bounds, table No. 81 is calculated on a ratio of 5 per cent per annum.

No. LXXXI.—*Population of the central basin.*

1826	3,000,000	1851	10,136,850
1827	3,150,000	1852	10,643,690
1828	3,307,500	1853	11,176,874
1829	3,472,855	1854	11,735,717
1830	3,646,495	1855	12,324,503
1831	3,828,815	1856	12,940,728
1832	4,020,255	1857	13,587,763
1833	4,221,265	1858	14,267,151
1834	4,432,325	1859	14,980,508
1835	4,653,940	1860	15,729,533
1836	4,886,645	1861	16,516,009
1837	5,130,975	1862	17,341,809
1838	5,387,520	1863	18,208,899
1839	5,656,895	1864	19,119,344
1840	5,939,715	1865	20,075,311
1841	6,236,700	1866	21,079,076
1842	6,548,535	1867	22,133,029
1843	6,875,960	1868	23,239,680
1844	7,219,755	1869	24,401,664
1845	7,580,740	1870	25,621,747
1846	7,959,775	1871	26,902,834
1847	8,357,760	1872	28,247,975
1848	8,775,645	1873	29,660,373
1849	9,194,425	1874	31,143,391
1850	9,654,145	1875	32,700,560

By reference to table 80, it will be seen that the aggregate population of the United States for 870, is estimated at 47,368,544, and comparing that with the same epoch, in table 81, it is shown that a period of less than 45 years from the present time, is sufficient to give superior population to the central basin. In fact, the ratio used in table 81, is too low.

No. LXXX.—Population of

Alabama	1810	000,000	1820	14
Arkansas	1810	12,282	1820	1
Illinois	1810	24,520	1820	
Indiana	1810	406,511	1820	1
Kentucky	1810	76,556	1820	
Louisiana	1810	4,762	1820	
Michigan	1810	40,352	1820	
Mississippi	1810	20,845	1820	
Missouri	1810	230,760	1820	
Ohio	1810	251,727		
Tennessee	1810			
		1,078,325		

In this estimate, no notice is tak
ginia, Pennsylvania and New Yo
whole organized states and terri
ces an area of about 745,000 s
a distributive population of 4
We have here, therefore, an
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United States have i
4 to 13 millions, th
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If the march of the emigrating column to the west is not arrested by unforeseen causes, the preponderance will be in the basin of the Mississippi in less than 40 years, or about 1865. And about that epoch, the relative density of population will be on the Atlantic slope, 90 to the square mile, and on the central basin 25. If every thing else is considered equal, the capabilities of farther increase after 1865 or 1870, will be as 9 to 2½, in favour of the central basin of North America over the Atlantic slope; and when each section is peopled in proportion to relative surface, the advantage of the central basin must have an excess, as 80 to 22 or 40 to 11.

In an elementary view of the United States, the first object of importance, after the numbers and distribution of the people, is certainly the means of intercommunication. Roads are more or less improved in all civilized countries, but it is in commercial and manufacturing countries, where roads and canals secure their due share of national importance. Roads and canals are, in a most emphatic manner, labour-saving machines, and it must be acknowledged that their creation and improvement in the United States, have progressed with a force, rapidity, and magnitude, fully commensurate with the increase of population. I cannot engage even to name all the great leading roads, or all the canals either completed, in progress of completion, or designed, but the following synopsis will serve to exhibit the vast and invaluable interest already created in the United States by canals and roads. In the former, however, ought always to be included, all improvements of any kind, tending to make the channels of rivers more navigable.

The canal system of the United States had its origin in Massachusetts, New Hampshire, and Connecticut. The peculiar structure of that section of the United States, has been noticed in the Physical *section of* this View. From such structure, the

coast, though abounding in harbours, and though the tides rose with augmented height, the rivers were, in their natural state, very unnavigable. To obviate this disadvantage, the rapid but fine streams of the Merrimac and Connecticut have been so far opened, by side cuts and locks, as to extend the navigation of their bosoms to almost their sources.

The most important haven of the eastern states, that of Boston, having no great river entering its recesses, a bold, and when designed, a sublime plan was made to unite the Merrimac basin to Boston harbour. This eventuated in the Middlesex canal, so called from the county of Massachusetts, through which it extends, 29½ miles from Boston to Chelmsford, and supplied by Concord river, with 136 feet of lockage. The Middlesex canal was the first on any considerable scale undertaken in the United States, and, besides its intrinsic importance to Massachusetts and New Hampshire, had great influence in promoting similar works elsewhere, but particularly the opening of side canals on the Merrimac river, thus making that stream in effect a continuation of the canal.

Blackstone river, one of the northern branches of Pawtucket river, rises in Worcester county, Massachusetts, and flowing SSE. into Rhode Island, afforded a canal route from the centre of Massachusetts to the city of Providence, which by the name of Blackstone canal, has been undertaken and is in progress. Length 45 miles from Worcester to Providence.

Next, westward from the basins of Merrimac and Boston, stretches the still more extensive navigable basin, the Connecticut. In its natural state, this fine river, like every other stream of that part of the United States, was greatly impeded by shoals and rapids, which have, however, been so far removed or obviated as to admit a boat navigation of 250 miles to Haverhill; ships of 7½ feet draught are na-

vigated 50 miles to Hartford, near the head of the tides.

Farmington canal, from Northampton, Massachusetts, to New Haven, by Westfield, Farmington, and Quinnipaug rivers, is a part of the Connecticut system of inland navigation; see page 162, and sequel. This canal is partly completed.

The most remarkable of the natural inlets of the United States, has become the theatre of its most extensive canal operations. In a state of nature, this singular tide river, the Hudson, presented at once an opening of one hundred and sixty miles directly into the continent, and directly towards another navigable and much more extensive basin, the St. Lawrence. Above the head of the tides, the Hudson divides into two great channels, one from the north, and another from the west. By the valley of the former, the most elevated table land into St. Lawrence was 90 feet, and by the latter or western branch, the Mohawk, only 420 into Lake Ontario. To any mind, even slightly disciplined to reflect on canal improvement, to trace the routes of the Erie and Champlain canals was a necessary operation, if made acquainted with the true geographical features of the state of New York. The fame of first suggesting these canals, will be perhaps disputed between Gouverneur Morris and De Witt Clinton, but their execution may be safely placed on the tombstone of the latter, nor could human nature demand a more sublime epitaph than "THE CHAMPLAIN AND ERIE CANALS."

By those two stupendous channels, upwards of 460 miles of artificial water lines have been given to the United States, and the two basins of the Hudso[illegible] and St. Lawrence, connected at distant po[illegible] opening the commerce of the Canadian sea t[illegible] city of New York. The im[illegible]ence of these national arteries will appe[illegible] [illegible]ore force, *the following* comparative

The plan and execution of the two canals of New York, and perhaps still more, the plan and very near advance to completion of the Welland canal in Upper Canada, have arrested not alone the attention of the people of Canada and the United States, but of Europe, to the natural and artificial navigation of the sea of Canada.

The St. Lawrence or drain of that inland sea, is a river, or more correctly a strait, entirely peculiar to itself in America, and having but one counterpart, that of the Marmora Black sea, and sea of Azoph. To reach this fresh-water inland sea by a canal route, from the dawn of civilized settlement, engaged the mind of every man of deep reflection who traversed the intermediate space from the valley of the Hudson. The accomplishment of this daring design we have witnessed, by the opening of not one, but two chains of canal and river routes—The Erie canal entering above, and the Champlain below the great rock shelf of Niagara.

As far as the mere practicability of forming canals from the Hudson into the St. Lawrence basin is concerned, the dispute is at rest; but there are other very weighty considerations connected with this great section of commercial intercommunication which have never yet received due attention. The day is approaching by not slow advance when the free navigation of the St. Lawrence will be demanded by the people of the northwestern sections of the United States, and demanded in a voice which neither the United States nor British governments, will be able to disregard. However despotic or free in name, all governments are in fact the mere organs of public will, and when events or interests of sufficient magnitude, arouse any people to the discussion of their aggregate will, governments of whatever form must yield to moral and physical force combined. It is a question not yet decided, how far any nation having political authority over the territory

along the banks of a natural water channel, is authorised by the laws of either nature or nations, to bar its free use to other nations, particularly in cases where absolutely requisite to international communication. To answer this question in favour of the right of stoppage, would be to say that Denmark has a right to close the Baltic, and Turkey a similar right to deny a passage through the Dardanelles and Thracian Bosphorus; and without any very violent stretch of concession, would grant to France and Great Britain, the right to close by convention between themselves the British channel.

On the side of the United States, as early as 1827, two canals were in actual operation. Previous, however, to the completion of either, it became obvious to the authorities and people of the Canadas, that when open, the Erie canal, in particular, would divert an immense mass of produce from the St. Lawrence channel to New York. With a view to obviate consequences of such a revolution, and with still more enlightened and liberal views, the Canada Land Company projected, and have in great part executed the Welland canal. As this new chain of inland navigation is but little known in the United States, some descriptive detail is necessary.

Lakes Erie and Ontario are separated by a peninsula, extending with a length of 40 miles east and west, between the western extremity of the latter, and the south-eastern of the former, and with a mean width of 25 miles. Along the eastern border of this peninsula winds Niagara river, falling from lake to lake 334 feet. Three-fourths of the whole surface is a plain, in part marshy, and spreading northward from, and very little elevated above lake Erie. The plain is terminated about six miles from lake Ontario by that rock ledge over which the waters of lake Erie precipitate, and form that sublime natural curiosity, the falls of Niagara. Between the summit level and the southern shore of lake Onta-

rio, the ground falls rapidly, and leaves a narr alluvial border along the lake, stretching from t mouth of Niagara river to Burlington bay.

Grand or Ouse river of Upper Canada rises N. lat. 43° 40′, long. 3° 30′ W. from Washingto in the country of the Six Nations of Indians, an flowing thence south 70 miles, enters Haldiman county, and turning to S. E. winds by a very tortuou channel but sluggish current into lake Erie, which it enters 40 miles directly west from the outlet of that lake, after an entire comparative course of 100 miles. This stream in the lower part of its channel forms the southernmost termination to the peninsula we are describing.

Rising east from Grand river, at about 16 miles from lake Erie, the Welland or Chippewa river, flows by a general course to the eastward, and falls into Niagara river immediately above the rapids which precede the falls. Similar to Grand river, the Welland is a very sluggish stream. In reality as has been already noticed, the whole plain above the ridge is an almost dead flat, having in no direction sufficient inclination to admit any great velocity of current in the streams.

The Welland canal commences in Port Maitland at the mouth of Grand river, and follows the channel of that stream one and two-fifths of a mile, and thence up Broad creek seven-eighths of a mile. Here the artificial channel commences by a cut of 10 miles through Winfleet marsh. This extensive morass spreads between Grand and Welland rivers, elevated but from 10 to 16 feet above lake Erie. ntering Welland river and descending it 10 miles, e canal is then conducted through the summit lge, by a stupendous deep cut, only equalled in nerica by the Desague near Mexico. The level Welland river is preserved to lock No. 1, 4¼ miles m the deep cut. Thus far, steam boats, by either elland or Grand rivers, are admitted. Approach-

ing the brow of the mountain ridge, anoth
cut of one-fourth of a mile, leads to the tre
brow, down which in a mile and 11-16ths
the whole difference of level between Lake
Ontario, is overcome by 17 locks of 100 by
The locks westward of the mountain ridge
by 40 feet. There are very few if any worl
yet constructed in America, more worthy o
than this precipice of locks which are plac
the declivity, winding from right to left, non
each other than 30 yards, in order to give
intervening reservoirs. At the foot of this
the canal is led along a ravine 2½ miles by 1
to St. Catharine's, having descended from tl
mit level 322 feet. From the latter point
Ontario 5 miles, the canal, by four locks,
its northern termination in Port Dalhousie.

If we consider the colonial condition of
the thinness of population and limited reso
the people of that country, it is impossible to
our admiration of the splendid design and
execution of this truly great work. It will
completed, admit the passage of the largest
which can navigate Lake Erie, and it is e
to be opened late in the present or early in
suing year.

The Canada Land Company has the in
honour of planning and forming this connecti
in their chain of water intercommunication b
the upper and lower sub-basins of the St. Lav
Never has any work more effectually answe
purposes than will the Welland canal. The
vessels that can navigate lake Erie, and e
shallow ports, are generally about from 50
tons, with a breadth of beam of 20, and kee
feet. The objects which were to be obtai
the formation of the Welland canal, have a
been stated, but there are other advantages s
to its projectors, or possessors, which cannot b

looked, and one of the greatest arises from the prevailing winds on Lake Erie, and from the peculiar manner by which that lake *debouches* into Niagara river. The winds throughout the year blow so generally down the lake as to demand for a voyage from Buffaloe to Detroit, from three to four or five times as many days as the reverse passage. Lake Erie narrowing also at its north-eastern extremity, and Niagara river turning nearly at right angles to the general course of the lake, forms a gorge into which ice is driven by the never tiring westerly and north-westerly winds. From these combined causes, the outlet of the Welland canal will be open from one to two months annually longer than will that of the Erie canal from Buffaloe and Black Rock.

Without indulging an illiberal spirit of national rivalry, it is obvious that nature itself points out the necessity of obviating by artificial means the very defective navigation of Lake Erie. Except Detroit and Niagara rivers, no one of the shore harbours of Lake Erie, admits a safe and steady entrance of 7 feet; also along the United States' shore, extend long lines of rock, and on the Canada side equally extended and dangerous reefs of sand. To these unchangeable impediments in the earth, may be added the perennial currents of air, to doom the navigation of this sheet of water to eternal danger, and diminutive tonnage. "*Rivers were made to supply canals with water*," said Brindley, and never was the expression more applicable than along Lake Erie. The same streams which deny entrance to large vessels from the lake, would afford an abundant supply of water to a canal: never certainly did more circumstances combine to excite to the performance of any other undertaking, than does to that of encircling Lake Erie with a canal from Buffaloe to Detroit. It would more than complete the chain already in part executed in the Erie, and in progress in the Ohio canal; and the whole taken

together, constitute one of the most useful
tensive lines of natural and artificial naviga
only in existence, but which the earth adm
put into existence.

The following table of stationary distance
once enable the reader to perceive the
which nature itself presents to the advanc
the proposed work.

Buffaloe harbour to Smoker's creek,
Cayuga creek, - - - - - -
Two Sisters creek, - - - - - -
Cattaraugus creek, - - - - - -
Dunkirk harbour, - - - - - - -
Fredonia creek, - - - - - - -
Portland mouth of Chatauque creek, - -
Northern angle of Pennsylvania, - -
Twenty Mile creek, - - - - - -
Sixteen Mile creek, - - - - -
Twelve Mile creek, - - - - - -
Erie town and harbour - - - - -
Fairview and mouth of Walnut creek, -
Elk Creek, - - - - - - -
Crooked creek, - - - - - - -
Northwest angle of Pennsylvania, - -
Coneaught village and river, - - -
Ashtabula village and river, - - - -
New Market and mouth of Grand river, -
New Market Creek, - - - - - -
Cuyahoga river and town of Cleveland, where
the Ohio canal debouches into Lake Erie -
Rocky river, - - - - - - -
Black river, - - - - - - -
Beaver river, - - - - - - -
Vermillion river, - - - - - -
Old Woman's creek, - - - - - -
Huron river, - - - - - - -
Sandusky bay, - - - - - - -
Portage river, - - - - - - -
Toussaint river, - - - - - - -

Maumee river,	15—274
Raisin river,	9—283
Stoney creek,	5—288
Huron river,	10—298
Rouge river,	22—320
Detroit,	3—325

At the first view, it will no doubt to many persons appear extravagant, to propose bordering a navigable lake of above 300 miles in length, with a canal; but if a careful comparison is made between the safety and regularity of transportation by such a canal, and the very uncertain and tedious navigation of the lake, a decision would at once be made in favour of the former. The same canal boat which would be loaded in the Ohio or Hudson, could without transhipment, be conveyed to the opposite extreme.

The most remarkable circumstance, however, in such a canal, is that it could be carried upwards of 300 miles on one level, if such a mode should be requisite; and in any manner of construction, would demand less lockage and be more secure of an uninterrupted supply of water, than any other canal line of equal length which can be traced in the United States.

Beside the Cuyahoga and Ohio canal, several other navigable streams issue from Ohio and Michigan, and flow into Lake Erie, of which Vermillion, Huron of Ohio, Sandusky, Maumee, Raisin, Huron of Michigan, and Riviere Rouge are considerable volumes of water.

In the very rapid advance of population, the almost naturally continuous navigable line by the Wabash and Maumee, will come forward and obtrude itself on public notice, much sooner than any person would now dare to anticipate. A single glance on a map of that part of the United States, will render demonstrative, how completely the Wabash and

Maumee route would harmonize with th
Erie canals. But we must pause; the m
al and individual benefits of the suggeste
ments are so obvious, as to present th
once without a prompter.

The Welland canal is not, however
large artificial channel projected and in
Canada; the Rideau canal arrests gre
at present, not only in Canada but in Gr
The Rideau canal is intended to obvia
difficult navigation of the St. Lawrence,
treal, and in time of war with the Unite
"obtain an inland route of communicati
Upper and Lower Canada, not liable to i
by a foreign enemy." The original de
canal dates back to 1816, and propos
mence at the mouth of Rideau river int
was, and thence following the course of
until about 20 miles below the lake o
name, and thence ascending a small st
Irish creek, which passes through the
Kitley, and in some places approache
miles of the St. Lawrence. After reachi
of this stream, which in summer is aln
was proposed to make a short cut acro
land into the Ganonanoqui waters in
of Beverly, and then following tha
its outlet into Lake Ontario, or rathe
rence river, 18 miles below Kingston.
15, page 256, it appears to be 173 miles
ston to Montreal; by the route of the Ot
and Rideau canal, the distance will be
200 miles, but by the latter will be avoid
gerous rapids of St. Lawrence, and in th
would seem of British politicians, the stil
gerous neighbourhood of the United Stat

Apart from any national predilectio
garding improvements, whether in Ca

United States, with respect to their effect on hu-human happiness, and as forming connecting links in a great system of inland navigation, I have en-grouped with the New York canals those of Wel-land and Rideau.

Besides the great lines, by pre-eminence called Erie and Champlain, several minor short, but nevertheless very important canals, are either ac-tually completed or designed in New York.

Oswego canal, length 38 miles, is completed, uniting the Hudson and Erie canal with Lake On-tario, and extending from Salina to Oswego.

Seneca canal, which in a length of 20 miles con-nects the Seneca and Cayuga lakes with the Erie canal, following the united outlets of those two large lakes.

Delaware and Hudson canal, formed along the vallies of the Nevisink, Rondout, and Esopus rivers, unites these two rivers by a line drawn through Orange, Sullivan, and Ulster counties, New York. The course of this canal being in some respects pe-culiar, demands a more particular notice. Leaving the Delaware and following Nevisink and Bashes creeks about 20 miles, enters the valley of Rondout creek, which it pursues about 20 miles, and thence passes the intermediate neck of land into Esopus or Kingston creek, which it follows to the Hudson; it is completed and in operation; entire length 65 miles.

A second canal connexion between the Hudson and Delaware basins is now in progress by the Mor-ris canal. The line of the Morris canal leaves the Delaware at Phillipsburgh, opposite Easton, in Pennsylvania, and carried over Warren county, New Jersey, to its extreme north-east angle about 30 miles; thence eastward through Morris and Es-sex counties to the Passaick river, and along the valley of the latter to Newark; leaves that city and crosses Passaick and Hackinsack, and winds throw

the Bergen marshes to Jersey city, opposite New York.

The State of Pennsylvania in respect to navigable rivers is in a high degree advantageously situated, though none of the larger streams which wind over this state either rise or enter their recipients within its limits. Of these great commercial or navigable channels, or chains of channels, the Delaware on the east, Susquehanna in the centre, and Ohio on the west, claim precedence. The political boundaries of the state of Pennsylvania completely and obliquely traverse its river vallies, and have compelled the inhabitants to incur immense labour and expense to unite their natural water courses by artificial improvements. This expenditure of toil and money has been met, and, at this juncture, few, if any other states in the United States, have undertaken and executed more;—no other state has so extensive works in actual progress. The Lehigh river, above Easton, to Mauch Chunk or Lehigh coal mines, has been rendered navigable by dams and falling locks, executed by White and Hazard at the expense of the Lehigh coal and navigation company. A canal is now in progress from Easton down the Delaware to Bristol; length about 50 miles. The Schuylkill river has been completely canalled, from tide water at the city of Philadelphia to the extensive coal mines on its sources, upwards of 110 miles. To unite the Schuylkill navigation to that of Susquehanna the Union Canal has been constructed, following the vallies of Tulpehocken and Swatara creeks from Reading in Berks to Middletown in Dauphin county. The Union is a link in a chain, now in progress, by the Susquehanna, Juniata, and Alleghany rivers to the city of Pittsburg. Beside these immense lines, which traverse in connexion the entire state, there exists a small but important canal, to pass the rapids or Conewago falls at York *Haven on* the Susquehanna; the Conestogo canal of

18 miles, to open by that creek a navigable channel from the city of Lancaster to the Susquehanna river; and preparations are making to extend a rail road from the city of Philadelphia, by Lancaster, to Columbia on the Susquehanna.

The Chesapeake and Ohio canal properly connects with the Pennsylvania system, though leaving tide water at Washington city. If executed agreeable to the original design, it will traverse a very interesting section of Pennsylvania, and unite with the Pennsylvania canal at Pittsburg; and if the former should be continued to Lake Erie, the two channels forming a common centre at the junction of the Allegany and Monongahela, will render the city of Pittsburg a most important manufacturing and commercial emporium. But in the accelerated advance of canal improvement, another line of incalculable value will meet public attention. The Ohio river at some stages of water is a very safely navigable stream; but is annually in autumn rendered unnavigable from drought. This impediment continues with diminished extent as low as Louisville, and can be obviated only by a canal along the entire bank of the river, or by dams and flushes. The former infinitely most eligible mode will no doubt be ultimately adopted, and secure at once more safety and a steady conveyance at that season of the year when most necessary. My limits preclude detail on the subject of extending a canal line along the Ohio, but I am well convinced from what I know of that river, that such must be the use made of its water at no very distant day. The best commentary on this subject might find a text in the census tables inserted in this chapter.

The Susquehanna navigable basin connects New York, Pennsylvania, and Maryland, and a cross line of canals could be carried along its middle channel, from tide water in Chesapeake bay to the Erie canal, rising at the utmost height to 885 feet.

(See table 5, page 71.) The great features of this section of the United States have been so amply noticed under the head of physical geography, that little can be usefully added in this place.

The Susquehanna is followed by another lesser but very important river valley, the Potomac. The rise of a great emporium between these two streams presents an anomaly in the political geography of the northern part of the United States. Baltimore, with great accumulated wealth, is actively engaged to determine, I will boldly say, the most important question in political economy. The relative value, in a national point of view, between roads and canals, as means of commercial intercommunication, bids fair to meet a decisive comparison. If the Baltimore rail road succeeds, the indispensable benefits of a navigable river to a commercial city will be rendered at least very doubtful, and, in point of fact, the already rapid growth of Baltimore goes far to solve the problem. The Baltimore rail road and Chesapeake and Ohio canal have both been commenced. July 4th, 1828, is the date of the incipient beginning of those two great works.

With the valley of Potomac terminates the execution or even the undertaking of any very extensive canal improvement on the Atlantic slope advancing from north to south. If the reader will turn to the physical section of this view, he will find an ample notice of the radical change in the navigable facilities afforded by the Atlantic bays and rivers north and south from the Chesapeake. With James' river terminates the northern system, and beyond that stream to Florida we meet, with but few exceptions, wide and shallow sounds and rivers impeded by bars and shoals. The great sea-sand alluvial border widens, whilst the tides are greatly lessened in elevation. I wrote the following reflections on the advantages possessed by Virginia, *should* that state enter the list of those of her sister

states, the inhabitants of which are inclined to avail themselves of local resources.

In every country there is some leading object of pursuit, which impels, with more or less force, the acts of the people. This leading principle may be called the temper of a nation, and necessarily exerts a controlling power over all its acts. Where the people have a voice, however, it is they who act, and are acted on by this moral force. Internal improvement is at this time the object which evinces the paramount feeling of the people of this country. To meliorate their condition in every practicable manner that awakened ingenuity may point out, will henceforth mark and exalt the character of the people of the United States; but from the complex nature of the form of government, works of public utility will be undertaken and executed with unequal intelligence and energy, following the impulse given by local state politics.

New York and Virginia offer themselves as prominent examples, illustrative of the foregoing exposition. These two states, with very unequal internal features, possess in one respect, in a very remarkable manner, similar advantages, as connecting links between the great Atlantic harbours and the vast INTERIOR of North America; both have a territorial extension, which grasps the necessary extremes. The western border of one reaches the great Canadian sea, that of the latter is formed by the Ohio river. With such resemblance as to the facility, how vast has been the difference in positive execution of plans to render their respective advantages available? Few citizens of Virginia could, without regret, answer the interrogatory. From local position, from the obvious effect on the individual prosperity of the people, and on the importance of the state as a member of the confederacy, Virginia, in place of being behind New York and Pennsylvania, ought to have been the leading state of the Union, in

every great object of internal improvement. In many respects, the mouth of the Chesapeake bay is the best entrance on the coast of the United States. So far from being ever frozen, this immense commercial inlet is never impeded with ice.

In order to place the local advantages of Virginia in a clear light, the following tables have been calculated. Though absolute accuracy cannot be vouched for, yet the general results will serve to give views sufficiently correct of the relative elevation, extent, and distributive population of Virginia.

Summary Table of Virginia.

Sections.	Square Miles.	Whites.	Free Persons of Colour.	Slaves.	Total.	Pop. to sq. mile.
Eastern,	9,035	116,179	16,959	128,448	261,584	29
Middle,	27,737	350,672	17,968	280,024	648,664	23½
Western,	28,130	134,122	1,070	13,316	148,508	5
Amount,	64,892	601,973	35,997	421,888	1,058,756	16½

Alluvial, or Eastern Section of Virginia, composed of Accomac, Caroline, Charles City, Elizabeth City, Essex, Gloucester, Greencsville, Isle of Wight, James City, King and Queen, King George, King William, Lancaster, Mathews, Middlesex, Nansemond, New Kent, Norfolk, Northampton, Northumberland, Princess Anne, Prince George's, Prince William, Richmond, Southampton, Surry, Sussex, Warwick, Westmoreland and York counties.

Middle or Hilly Section of Virginia, Albemarle, Amelia, Amherst, Augusta, Bath, Bedford, Berkeley, Bottetourt, Brunswick, Buckingham, Campbell, Charlotte, Chesterfield, Culpeper, Cumberland, Dinwiddie, Fairfax, Fauquier, Fluvanna, Franklin, Frederick, Goochland, Halifax, Hampshire, Hanover, *Hardy*, Henrico, Henry, Jefferson, Loudoun,

Louisa, Lunenburg, Madison, Mecklenburg, Morgan, Nottoway, Nelson, Orange, Patrick, Pendleton, Pittsylvania, Prince Edward, Powhatan, Rockbridge, Rockingham, Shenandoah, Spottsylvania, and Stafford counties.

Western Section of Virginia, Brooke, Cabell, Grayson, Giles, Greenbrier, Harrison, Kanawha, Lee, Lewis, Mason, Monongalia, Monroe, Montgomery, Ohio, Nicholas, Preston, Pocahontas, Randolph, Russell, Scott, Tazewell, Tyler, Washington, Wood, and Wythe counties.

No. LXXXII.—*Table of the ascents and descents from tide-water in James' river to the mouth of the Great Kenhawa, by the route of Jamestown, Craig's creek, Sinking creek, and Great Kenhawa.*

	Miles.			Feet.	
Richmond, up James' river, to mouth of Craig's creek,....		200	Rises		925
Up Craig's creek to the mouth of John's Creek,.....	49	249	do.	345	1270
Highest spring tributary to Craig's creek,.....	8½	257½	do.	1228	2498
Lowest point on dividing ridge,	0¼		do.	53	2551
Highest spring tributary to Sinking creek,.....	0¼	258	Falls	42	2509
Mouth of Sinking creek,.....	34	292	do.	924	1585
Down Great Kanawha to the mouth of Greenbriar river,	55	347	do.	392	1333
Bowyer's Ferry,.....	46	393	do.	403	930
Kanawha at the foot of the Great Falls,.....	21	414	do.	341	589
Ohio river at the mouth of the Great Kanawha,.....	94	508	do.	108	481

Let any citizen of Virginia cast his eye on the splendid map of his state, and range over its bay

rivers and mountains, from Norfolk to the mou
Great Kanawha, and what must be his reflec
on not seeing traced even a great connecting
Without intending any reproach to the peo
Virginia, which would be at once uncandid an
just, we may seek the stationary position c
state in other causes. The table given, shew
very unequal distribution of her population,
serves also to explain some, otherwise very int
effects of its local politics; but Virginia has
New York and Pennsylvania, a territorial e
which renders her utterly independent of the
federacy in the performance of any great
canal or road, to unite the Atlantic slope
the valley of Ohio. The two fine rivers, J
and Kanawha, seem to flow in directions, a
have pierced the mountain chains in such a ma
as to remove what was beyond human force
leave to the people of Virginia the sublime ta
completing what nature left undone. The
have carried on an unceasing war with the
rently stable mountains, and worn them do
their base.

In a state possessing such a natural line
such distinguished men as are now engaged i
work of internal improvement, the great
ral line of James and Kanawha river, cann
ways remain unimproved. It is a narrow and
tracted view of canal or road creation, in s
country as that of the United States, to conside
local interest. No canal or road, traversing
state, can have its resulting benefits confin
that particular political section. Such imp
ments are national, and if well constructed, the
permanent as the natural features themselves.
line of canals, or a line of roads and canals,
therefore constructed from tide water in Jam
ver to the Ohio at the mouth of Great Kan
then would another chain be added to bind th

to the west, and another ligament be created to strengthen the Union, and secure that compact, which, however they may differ as to its provisions, every citizen of the United States holds sacred.

The Delaware and Chesapeake canal, is in some respects the most important improvement of that kind attempted hitherto in the United States, and is one of the few canal routes which could not by any human means be traversed by a road to equal advantage. This canal, if made of adequate dimensions, must produce the most extensive national benefits, particularly in time of war. Had such a channel as this been open from 1812 to 1814 inclusive, it would have far more than saved the expense of its own construction. If made, however, with too slender capacity for sea vessels, it is a canal, which from local position, can hardly, as a commercial channel, be of equal utility with those stretching towards or into the great interior agricultural districts of the United States.

Beyond the Chesapeake bay, the Dismal Swamp canal, by a length of 23 miles unites the waters of James river to those of Albemarle sound. It is completed and admits vessels of 7 feet draught.

Roanoke river enters deeply into the continent, the tide ascends its channel 70 miles, but the navigable facilities above the tides are not in proportion to volume. Some advance has been made to remove impediments in its stream, but still the Roanoke is amongst the fine, but unimproved rivers of the United States.

Santee and Pedee, it has already been noticed, have ample volumes of water and debouche into the Atlantic Ocean near the same point. Both are shallow and impeded by bars near their mouths. A canal has been constructed from the Santee at Eutaw, to Cooper river, uniting the bason of Santee with Charleston harbour, distance from Charleston into Santee about 60 miles. It is in contemplation

to extend the Santee navigation to Columbia, and upwards in other branches of the basin.

Another canal system has been proposed, from the city of Savannah to the Alatamaha; but little has yet been effected in such undertakings south of the Santee basin. The projected cut across the peninsula of Florida, is amongst the canal systems of the southern part of the United States, certainly of most importance, but also remains a splendid design.

From this cursory survey of the Canals of the Atlantic Slope, we proceed to notice those actually undertaken in the great central basin. In the physical view of that section, I have already noticed the very remarkable facility of navigation from the natural streams, but the extension of settlement superinduced still more direct channels of intercommunication. The bold design and successful execution of the New York canals, excited emulation in Ohio, and the Erie and Sciota canal, or Ohio state canal of 306 miles, from Cleveland on lake Erie to the Ohio, at the mouth of Sciota, was surveyed and is now rapidly progressing, forming in fact, a continuation of the New York canal system.

Another great canal line is also in progress in the state of Ohio, stretching from Cincinnati to Lake Erie, by the Miami and Maumee rivers. Part of the Miami branch is completed between Cincinnati and Dayton.

A short, but very necessary canal to pass the Falls of the Ohio at Louisville, has been undertaken. This side cut about three miles in length, will obviate the greatest natural obstruction in the bed of the Ohio; and is progressing to near its completion.

Canals have been projected in various other points of the Ohio and Mississippi regions; the most important of which are, a canal to join lake Huron to Illinois river; a canal or line of canals to unite the *Wabash* navigation to the Ohio Miami canal; a

canal to pass the Muscle shoals in Tennessee; a canal to unite the Tennessee to the Mobile navigation, and the still more extended and necessary canal along the southern shore of Lake Erie.

I once heard the respectable Judge Rodney at Natchez, suggest the idea of an entire side cut along the western side of the Mississippi, from the mouth of the Ohio downwards. If steam boats had never been invented, the idea of this excellent man would deserve most serious attention, and with all the powers of the steam boat to overcome the current, the advance of population along the Mississippi, will no doubt eventuate in opening many of those natural, but obstructed channels which wind over the great alluvial plain from Missouri to Louisiana. The Arkansas, Red, and Wachitau rivers, are to unite, and an immense circuit down the Mississippi and up the two latter avoided; but I must desist from farther detail here and close this chapter with a survey of the mouth of the Mississippi.

The subjoined view of the Delta of the Mississippi, as forming a part of the great navigable system of the United States, was first published in the American Farmer, Vol. 10, Nos. 16 and 17.

It is somewhat singular, that amid the various projects of internal improvement, the greatest has been neglected—scarcely noticed—that is to deepen the bar of the Mississippi. At the first glance of such a proposal, it would appear a very impracticable design, but I measured the passes and sounded all the bars of the outlet of that mighty stream in 1813, and the following observations are founded on that measurement. Besides three or four of little consequence, the Mississippi has four main passes or outlets; these are, the west pass with about eight feet water; the south-west pass with twelve feet water; south pass with eight feet, and the south-east, or main pass with twelve feet water. These depths are given at ordinary tides.

It may, however, be observed, that the tides in the gulf of Mexico are small, not exceeding, if uninfluenced by winds, two and a half feet.

Within the bars, and in all its course, the Mississippi is a very narrow stream in proportion to its depth. As high as Donaldsonville, at the outlet of La Fourche, near 80 miles above New Orleans, the mid channel, at the lowest stage, is upwards of 100 feet in depth. This great depth gradually lessens to about seventy feet before New Orleans, but maintains soundings of upwards of thirty feet until within one mile from the main bar. The influence also, of the great interior inundation, is less and less apparent approaching the outlets, where the difference of rise and fall from the latter cause is very trivial,

The surface of the land between the passes is as level as that of the ocean, rising only above low, and covered by high tides. The soil, an alluvial admixture of sand and blue mud; forming, nevertheless, an extremely tenacious clay. The common idea that the component clay of the Mississippi yields easily to the action of water, is very unfounded in fact; on the contrary, few earths sustain aqueous action so powerfully. The current also of the river has entirely ceased before reaching the bars.

I have made these preliminary remarks, in order to prepare the reader for what is to follow. I made the survey already mentioned, by order of General James Wilkinson, and one object of the work was to ascertain whether a battery could be erected, from which point blank shot could be thrown into the main pass. The performance of the task convinced me fully of the practicability, utility and necessity of a double work; a work which would enable the government of the United States to deepen the channel and defend its entrance. Though apparently so very difficult, the buildings at Kronstadt at the mouth of the Neva, the Eddystone Lighthouse,

and many more, were still more difficult, dangerous and expensive in their execution.

No soil could be possibly found better adapted to the sinking and retention of piles. Quick-sand, there is none, nor rock to arrest the point of the piles. It would, consequently, be very easy comparatively to commence where the water was at any given depth, and drive a double column of piles, leaving an intermediate space for a channel of any desirable width, and afterwards dredge the mud into the gulf. To shew the ease with which the dredging part could be performed, it is only necessary to state one fact. On either of the two great passes, when you have the depth of twelve, it is upwards of thirty feet in one, and upwards of fifty feet in two cables length.

Like all original projects, ridicule will no doubt be the first reward of a design to deepen the channel of our greatest river, but convinced I am, that ships of any draught will, long before fifty years, be navigated to and from New Orleans.

With such an improvement in our inland navigation, even the canal over the isthmus of Delaware and Chesapeake cannot be compared. Geographically, the Mississippi basin extends from N. lat. 29° to 51°, and from 26′ to 36° west from Washington City, forming an immense navigable triangle. The base of this vast figure from the sources of the Allegany to those of Maria's river, 1700 miles; from the sources of Maria's river to the mouth of the Mississippi itself, 1600 miles; and 1600 miles from the mouth of the Mississippi to the sources of the Alleghany. Such, however, is the irregularity of its outline, from entering at salient angles, that it is only from the rhumbs on a good map, that its area can be estimated with any approximation to exactness. Measured in this manner the basin of the Mississippi amounts to 1,341,649 square miles. Of such an extent, the two vallies of Ohio, and of Mis-

sissippi proper, contain 400,000 square miles, of a most productive soil, on which population is advancing with unprecedented rapidity.

It is to be hoped that the people and the government of the United States will turn their attention to a subject of improvement involving so few local, but embracing universal interest, really not confined to the United States, but influencing less or more, the whole commercial world. The Mississippi is, in fact, the most important stream in the northern temperate zone of the earth, both in respect to soil and superficies, and when peopled, as it will be, by a most active, enterprising and free people, must, within the current century, sustain the greatest physical and moral force ever united on a single river.

Many and most unfounded errors prevail respecting the natural history of this mighty river, but none so much calculated to produce undue influence upon the projected improvement, than its having frequently deserted its bed. To remove that, and many other misconceptions on the physical features of that world of waters, we now proceed to a brief sketch of the Delta, laying it down as a postulate: *That the Mississippi can no more desert its bed, than can the Susquehanna, Delaware, Hudson, &c.*

The facts of the Mississippi overflowing its banks at extreme high water, and in having outlets so far as that of the Atchafalaya from the ultimate recipient, have led to the erroneous opinion, that the main volume could desert its bed. The general depth of the Mississippi I have given, and have also observed that the depth very gradually lessens below La Fourche; but the depth given, was that of the water itself at the lowest stage, and not that of the river's bed below the high bank. At Bringier's, fourteen miles below the La Fourche, and one hundred and eighty miles above the main pass, the bed of the Mississippi was carefully measured by Mr. Louis *Bringier* and myself, and found to be one hundred

and thirty one english feet. The particular place where exists the greatest depth of this vast volume, has, I believe, never been determined; but above the mouth of Red river it lessens, and at Natchez is about seventy or eighty feet. The width, even as high as the junction of the Mississippi and Missouri, to the divergence of the passes, about eight miles above the main or south-east pass, where not swelled by islands, is in a remarkable degree uniform, not varying sensibly from half an English mile.

Meliorating a natural but obstructed water course by removing impediments, is as necessary and as meritorious as opening a new channel.

There are few phenomena in nature more curious, or perhaps more misunderstood, than the obstructions called rafts, in the Red and Atchafalaya, and being designated by one term, are generally considered as specifically the same in both streams, which as we shall soon perceive is far from being a fact. When on the subject of the Mississippi, the Atchafalaya as an outlet, was noticed and discussed, but we now proceed to examine it as a continuation of Red river.

Red river is the true North American Nile, rising in New Mexico, at N. lat. 35° and lon. 27° W. from Washington city, augmented by numerous branches and flowing in very nearly an easterly direction, 300 miles to the 100th degree W. from the Royal Observatory at Greenwich, and 23 deg. 4 m. W. from Washington City, continuing east 400 miles, and forming a boundary between the United States and Texas. Red river enters Arkansas, and curving to the S. E. a few miles, and thence south, enters Louisiana, over which it winds by a general course of S. E., 200, but by a very winding channel of upwards of 300 miles.

Red river enters Louisiana near the north west angle of that state, by a single stream, but about 30 miles lower breaks into numerous branches, pre-

senting a most intricate maze of islands, inlets, channels, and lakes of every size, from one to thirty miles in length. This annually inundated tract lies in a direction of north west and south east, extending 60 miles, with a mean width of eight miles. Ascending, this raft region, as it is absurdly called, commences at Grand Ecor, 4 miles above Natchitoches, and has every appearance of having once been a lake, which has been gradually filled by alluvion, and what is peculiarly worthy of remark is, that as the ancient lake was disappearing, the earth by which it was obliterated, operated to form dams across the mouths of the small tributary rivers on each side, and by that means create new lakes. In this manner was formed, lake Bastineau, 40 miles long, and from one to three wide; lake Bodeau 30 miles long, and from one to ten miles wide; two large lakes in the vicinity of the Cado village, Spanish lake in the vicinity of Natchitoches, and many more. These new lakes, and the remains of the still greater and more ancient lake, have a most powerful effect in checking the excess, but at the same time lengthens the duration, of the floods of Red river. This great tributary of the Delta, rather than of the Mississippi, is a much greater stream than is commonly believed. Having a comparative course of upwards of one thousand miles, and draining at least 150,000 square miles, Red river bears into Louisiana an immense body of water. The spring periodical overflow of this river, is usually in the months of February, March and April, but flowing from a southern and in a great part a prairie country, the evaporation of summer and autumn reduces its volume to a very small compass. At the latter period, the lakes and low grounds in a great part drain out, or their waters are evaporated, and in October and November immense spaces, which in February, March and April, were inundated from one to twenty feet, become meadows covered with a carpet of green and succulent herbage.

Thirty miles above its influx into the Mississippi, Red river receives its north-eastern and largest branch, the Ouachita. The latter rises between Red and Arkansas rivers, long. W. from W. C. 17°, and at N. lat. 34° 40′; flowing thence a little east of south 300 miles, but by a very tortuous channel, joins Red river. The general features of Ouachita, are very similar to the main stream, and in particular those of the lakes and adjacent swamps, which near the Ouachita are at like seasons filled and emptied, and along both rivers operate as real reservoirs.

The great inundated tract above Natchitoches, is not rendered difficult of navigation by rafts of timber, for few such do really exist in these "thousand streams," but from the very great intricacy of the channels. I had a very large pirogue constructed in a creek of Lake Bistineau, with which we navigated into and above Lake Bodeau, and with which I returned by Red river, by one of its outlets below Alexandria at the Rapids, and down Boeuf river to Lemelles landing near St. Landre Opelousas. At high water, barges of large tonnage are navigated through the Raft, and for several hundred miles above, into the recesses of Arkansas and Texas.

At the Grand Ecor above Natchitoches, and at the latter village, Red river once more breaks into separate channels, which never again entirely reunite. The main stream, however, falls over its lower rapid at Alexandria, and flowing thence by a channel more winding, if possible, than that of the Mississippi itself, the two rivers touch rather than unite, one and a half miles above the efflux of the Atchafalaya, at N. lat. 31° 1′. A moment's attention to the relative courses of Red and Atchafalaya rivers, renders the conclusion inevitable, that the latter is the continuation of the former. The banks of the two streams have a perfect resemblance to each other, and particularly in the colour of

ochreous earth of which they are composed, and from which Red river derives its name. This reddish earth, prevalent along the Boeuf and Teche, demonstrates also the extensive agency once exercised by the waters of Red river, in places which they no longer reach.

It has been noticed, that the current of the Mississippi, was thrown from the points into the bends, and it must be evident that with the current, will floating timber be in like manner borne along the shores at the bottom of the bends.—Though only distant from each other 2508 yards, or not quite half a mile, a very salient point from the left shore protrudes into the Mississippi, between the mouth of Red river and the efflux of Atchafalaya. Red river comes in from the north; the Mississippi meets it from the east, and the united waters rapidly sweep to the southward, and south-eastward, throw out the Atchafalaya to the south-west, and thence assume an eastern course of 5 or 6 miles, forming a very narrow and pointed peninsula on the eastern side of the Mississippi.

When the spring floods are at their height, an enormous body of water pours into Atchafalaya, with overwhelming rapidity. The winding of the bend above, as I have already noticed, forces the current, and with it every floating substance it bears, directly into the Atchafalaya, down which the *debris* is carried in masses which would stagger human belief to admit as possible. In about 1774, as near as I could obtain correct information in Louisiana, a body of floating timber, large and compact enough to fill the channel of Atchafalaya, lodged in one of the very crooked bends of that stream. The first raft was quickly augmented by new accessions, and now for upwards of fifty years, has been annually supplied, and has entirely prevented the navigation of the Hoogly of Louisiana. The raft I am now noticing, is really such in the proper mean-

ıg of the term; it is composed of trees lying in very direction, lodged and interlaced from bank to ank, and rising and falling with the water; but, at very stage of flood, completely gorging the chan-el from bank to bank. There are a few spots along ıe Atchafalaya shores, which are above annual ıbmersion, and the immediate banks are every here more elevated than the adjacent country on ›th sides; but in general, the course of this outlet ›ove and below the Teche, is through one vast an-ıally submerged tract; a tract covered with a most ınse forest, except where chequered with lakes, or ıed by rivers. Though of very little consequence a habitable surface, however, the Atchafalaya, if ·ndered navigable, would be of incalculable advan-ge, not alone to Opelousas and Attacapas, but to l Louisiana and the western states generally. To ›eak of nothing else, the immense stores of timber, ırticularly the invaluable cypress, which abound ong and near its banks, now locked from hu-an use, must continue so until the removal of the ıpediment it places in the way of navigation, and me preventive against its recurrence is effected. pening the Atchafalaya would be to open the ›urtableau, Teche, and Vermillion. The unequal-d advantages which might, with moderate expend-ıre, be taken of the peculiar natural features of ese latter streams, I have discussed; but there is ıother consideration of great weight, which should eet the attention of the people of Louisiana, and the general government; that is, the increased ·lue of landed property in the vicinity which ›uld be the certain consequence of opening the tchafalaya.

The raft or rather rafts, when I surveyed the At-ıafalaya in 1808 and 1809, began at 26 miles from e outlet of that river, and continued downwards in ›oken fragments below the mouth of the Cou-eau. These fragments are far from station

I witnessed breaches and removal several times, and am convinced that if acquisitions were prevented, time itself would remove the obstruction. The entrance of timber from the Mississippi can be easily prevented, and art ought to proceed in advance of time in abstracting a nuisance, which if removed, ample remuneration would be as certain as the operation of the laws of nature. Taken together, the whole of the rafts extend about 10 miles, rising and falling, as already observed, with the water.—Ten miles is 17,600 yards; the mean width very near 220, with a depth of 3 yards. These elements would give $17,600 \times 220 \times 3 = 11,616,000$ cubic yards, very nearly equal 2,450,632 cubic cords.

In the first instance, to prevent the future discharge of floating timber into the Atchafalaya, piles could be driven into the bed of that river at its efflux, and a lock constructed to admit the passage of boats and rafts. In fact, turning the floating trees down the Mississippi, would be itself no trifling advantage. The inhabitants along the banks of that river, advancing towards New Orleans, very carefully collect the timber found upon the stream, and use it as fuel.

In respect to removing the masses already accumulated in the Atchafalaya, it has been shewn to rise and fall with the water; one consequence of which circumstance is, that when the river in autumn is very low, the rafts extend from high bank to high bank, in the form of a semi-ellipse; large bodies near the shores being then left dry, could in great part be consumed by fire. The residue might be removed by means of cranes, the labour, as a matter of course, becoming constantly less burthensome, as the incumbent body would be rendered less and less compact.

There have been many extremely idle tales related, and as idly believed, respecting the Atchafalaya rafts. I have heard it asserted even at Ope-

ısas, within from 15 to 20 miles of the place, that
: timber was in many places so compact as to have
ımed, with mud and trees, the appearance of
id land, and that it could be passed without know-
; a river flowed beneath. I have carefully sur-
ved the rafts in all their length, and have passed
er them in numerous places. By taking a cir-
tous route from tree to tree, and by exposing
selves to considerable danger, and much severe
our, they can be passed; but I saw no one place
ere the passage could be made without traversing
least twice the direct distance from bank to bank.
very high water, indeed, the act of crossing these
ts must be either one of great urgency or of still
ater rashness; it was an enterprise I never un-
took except from necessity.

Detail on the subject of meliorating the navigable
ilities of Louisiana might be enlarged to a vo-
ıe, but the brevity of this view sets an impas-
le limit to a farther investigation of that topic at
sent, and I close with a few observations on one
he most important problems in the physical geo-
phy of the United States. The question has been
cussed for ages, how to obviate or lessen the
ıntum of overflow in rivers having their estua-
ı by extensive alluvial deltas. The necessary
ments for the solution of this problem, have been
lected with most care, and digested with most
ll, in the examples of the Rhine and Po, and more
ticularly the latter.

M. de Progny, sent to Italy by Napoleon, to exa-
ıe the Po, recommended artificial drains, in pre-
ence to embankments; but the Italian engineers
ıbted the practical efficacy of drains, and though,
applied to the Mississippi, I formerly adopted
opinion of M. de Progny, I have, on examining
reasons given by Italian engineers, harboured
ıbts. These doubts arise from the fact, that the
rflow is occasioned by the incumbent mass from

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above; and that opening new or enlarging old channels below, only tend to augment the pressure and increase the velocity of the current. These effects arise from the unerring laws of hydrostatics; but although all the benefits promised by M. de Progny could not be realized, it by no means follows that manifest and great advantages would not follow from increasing the depth and width of the natural, or where practicable, making new outlets from the Mississippi.

The Atchafalaya is 110 yards wide, and leaves the Mississippi by an inclined plane of considerable declivity. This rapid descent gives a strong current for 4 or 5 miles; it would not be a very great undertaking to pile the shores and deepen the channel so as to admit a much larger volume from the Mississippi, and admit that volume to flow for a much longer period than does the present natural outlet; but unless the new discharge was so regulated as to confine the mass to as small or even a less body in a given time, the most ruinous consequences would ensue to the arable borders of the left bank of the Teche, by throwing an increased annual inundation into the basin of Atchafalaya.

Similar objections may be urged against any other drain, unless mitigated in quantity in a given period, and lengthened in time. With these restrictions, if the channels of any or all the outlets were deepened, water would of course enter from the main stream sooner, and continue to flow longer, in direct proportion to depth.

On a former occasion, I laid down the following laws as regulating the motion of water. Water moves with equal velocity, in equal times, on equally inclined planes, at equal depths.

The plane of descent, except immediately at the points of outlet, being in every part of Louisiana, very little inclined, causes the water to accumulate *in the* recesses distant from the streams, and to en-

ıach on the farms in every case where the supply unusually abundant. It is these local features l the laws by which water either moves or stands gnant, which render the occurrence of a breach the levees or embankments to the Mississippi and outlets, so serious a calamity to the inhabitants ere they take place. These breaches or *cre-ses*, demonstrate the effect of abstracting water m the rivers, and ought to deter from any at-ıpt at artificial drainage unless the quantum can fully controlled and a recipient provided.

n any case of constructing or increasing natural ıins, it must be evident from the principles laid wn in this paper, that the higher they are formed ove the final discharge, the more effective; but in pect to the Mississippi, the Atchafalaya is the hest point where any practicable design of that d could be carried into effect. On the east side s only 14 miles in measure to the high lands be-' Loftus Heights; and on the western, a chain of ter courses extend towards Avoyelles, with banks elevated as the highest overflow, and protruded he bank of Atchafalaya, 5 miles below its outlets the Bayou de Glaize. Therefore, all the water charged by the Mississippi, and most of that of d river above, is forced into the space between eastern bluffs, near Loftus Heights, and the uth of Bayou de Glaize; three-fourths of the in-mediate distance, 20 miles, being occupied by of those long curving bends of the Mississippi. 'rom the diversified climates from which the pe-lical floods of the Delta are supplied, the entire ly can never reach Louisiana at the same period, l thus nature has protected that country from sub-rsion, at the opening of every spring; and well s, that those fertile plains are thus defended, as ertainly admits of very well founded doubt whe-r human power can do much more than has al-dy been done by embankment, to control the

Canal Stocks in England.

We have met, in a late number of Niles' Register, with the following table, showing the value of canal stocks in England. It is extracted by the Register from the Trade List of the 11th March last. The Trade List, it is said, is published weekly by an assistant clerk of the bills of entry of the British customs, and may be deemed to have an official sanction.

Names of Canals.	Original cost of each share.	Present price of each share.	Price of each share in 1822.	Dividend on each share.	Dividend in 1822.	No. of shares.	Average cost.
	l.	*l.*	*l.*	*l. s.*	*l.*		*l. s.*
Barnesley	160	300		13		5720	
Birmingham	17½	203	565	12 10	20	4000	
Carlisle	50	490				1600	21 10
Chesterfield	100	150	120	8	8	1500	
Coventry	100	1200	999	44	44	500	
Cromford	100	400		19		460	
Derby	100	150		7 10		600	110
Erwash	100	1400	1000	72	58	231	
Forth and Clyde	100	570		25		1207	406 16
Glamorganshire	100	250		13 12		600	172 13
Grand Junction	100	307	218	13	9	11600	
Grantham	150	215		9		749	150
Leeds and Liverpool	100	395	278	16	10	2897	
Leicester	100	325	260	17	10	540	140
Loughboro'	100	4000	2400	200	119	70	142 17
Milton Mowbray	100	240	170	11	8½	250	
Mersey & Erwell	100	825	650	35	30	500	

TABLE CONTINUED.

Names of Canals.	Original cost of each share.	Present price of each share.	Price of each share in 1822.	Dividend on each share.	Dividend in 1822.	No. of shares.	Average cost.
	l.	*l.*	*l.*	*l.* *s.*	*l.*		*l.* *s.*
Monmouthshire	100	225		10		2409	100
Neath	100	350		15		247	107 10
Nottingham	150	290		12		500	
Oxford	100	670	640	32	32	1786	
Shrewsbury	125	210		10		500	
Shropshire	125	135		7		500	
Somerset coal	50	170		10		800	
Stafford and Worcester	140	800	642	40	40	700	140
Stourbridge	145	220		12		300	
Stroudwater	150	450		23		200	
Swansea	100	280		12 10		533	
Trent & Mersey	100	820	900	37 10	75	1300	
Warwick and Birmingham	100	265	210	12	11	1000	
Warwick and Napton	100	205	235	12	10	930	
Wyrley & Essington	125	160		6		800	

At a time when the subject of canals engages so much of the public attention in this country, the foregoing statement cannot but be interesting and encouraging. The value of canal stock, wherever the work may be, must depend on the tolls that they are allowed to charge, and on their having full employment. The canals which are constructing have a right to exact as high tolls, we are informed,

e taken on the English canals; and there
to be no doubt that the inexhaustible body
l with which most of our canals are con-
l, and the great supply of that article which
uired, for the transportation of coal alone,
ndent of other articles, will afford the canals
nployment. Why then should not our canals
valuable as those of Great Britain?—one of
, the Loughborough, it will be seen by the
table, is at four thousand per cent. and has
ixteen hundred per cent. within the last six

losing this much too brief notice of inland na-
on in the United States, I cannot avoid ob-
g, that history affords no other example of
on roads and canals being carried on to such
as is done at this moment in the United
and Canada. Let such spirit prevail for one
y, and what a decorated garden will North
ica present.

CHAPTER XII.

INDIVIDUAL STATES AND TERRITORIES OF THE UNITED STATES.

The reader will observe, that the chief town annexed to each county, is at once the seat of justice and principal post office for that county.

[The italic letters annexed to counties, shew their situation in the state to which they respectively belong: *e*, *w*, *n*, *s*, and *m*, eastward, westward, northward, southward, and middle.]

Many arbitrary subdivisions have been attempted, with a view to simplify the engrouping of the United States, but have appeared to me in every instance productive of confusion. The artificial lines of the political subdivisions, are drawn with so little regard to natural features, that all relative classification into eastern, western, southern or central states, superinduce so many exceptions, as to render the rule worse than dubious. In the subsequent specific description, I have adopted the alphabetic mode, as easy of reference and as obviating all attempts at an arrangement which I have shewn to be impracticable, so as to answer any useful purpose.

ALABAMA.

Boundaries, extent and position.—S. by Florida; S. W. by the Gulf of Mexico; W. by the state of Mississippi; N. by Tennessee, and E. by Georgia.

The limits of Alabama are:

	Miles.
Beginning on the Gulf of Mexico, between the *mouths* of Mobile and Pascagoula rivers, and *thence* northerly along the state of Mississippi,	320

To Tennessee river, thence down that stream,	10
To the southern boundary of Tennessee, thence due east along Tennessee,	153
To the N. W. angle of Georgia, thence along the western boundary of Georgia,*	146
To the Chatahooche river, thence down that stream to N. lat. 31°, by comparative courses,	160
To Perdido river,	150
Thence down the latter to its entrance into the Gulf of Mexico,	60
Westward along the Gulf of Mexico,	60
	1059

Area 51,770 square miles, 33,132,800 statute acres. Mean length 336; mean breadth from E. to W. 195 miles. Lying between lat. 30° 10′ and 35° N., and between long. 80° 05′ and 11° 30′ W. Seat of Government, Tuscaloosa, N. lat. 33° 13′, W. lon. 10° 41′.

Natural Geography. Alabama is naturally divided into three very distinct zones; the northern traversed by the main volume, and drained by numerous small rivers flowing into Tennessee, may be considered if not mountainous, at least very broken, and most pleasantly diversified. The middle or central zone, drained by the various branches of Coosa, Cahawba, Tuscaloosa and Tombigbee rivers, gradually assumes a more level surface and in general a very inferior soil to the northern section on Tennessee. The southern or Pine region is still less broken by hills than the central, and contracted by the western projection of Florida, to a strip of 60 miles wide, along Mobile bay, terminates in the sandy alluvion of the Mexican Gulf.

* The line of demarcation separating Alabama and Georgia, between the south line of Tennessee and Chatahooche river, is unsettled; the point of outset from the Chatahooche, being in dispute between the two states concerned; Alabama claiming Fort Mitchel, and Georgia the most western bend of Chatahooche, as the point of outset. The line mentioned in the text, is that recently extended by Georgia, and measures 145¾ miles.

Extending over almost 5 degrees of latitude, sing from the level of the sea on the south, to co able elevation, perhaps 1000 feet north, this st hibits a marked difference of temperature. It t rather than enters the region of sugar cane, but in all its extent of the profitable cultivation of Fruits, from the fig to the apple, flourish abun but even the southern section does not admit t cessful production of the orange. Small grain i vated, though maize predominates as a crop. is the staple of the state, but might be superse tobacco or indigo, perhaps by other vegetables.

Alabama has been too recently settled by ci population, to admit the full development of m wealth, nor, except iron, do the known specim ores promise great fossil abundance.

The climate is mild, indeed might be with safe ed delightful. Much of the soil is fertile, none barren. In navigable rivers, this state possesses commercial advantages, though comprising only rect outlet to the sea. Besides many of less not bama is watered by Tennessee, Tombigbee, Tusc Alabama, Cahawba, Coosa, Talapoosa and Conec ers.

Politically this state is divided into the fol counties.

Counties.	*Chief Towns.*	*Pop*
Autauga, *m.*	Washington	
Baldwin, *s. w.*	Blakely	
Bibb, *m.*	Centreville	
Blount, *m. n.*	Blountsville	
Butler, *s.*	Greenville	
Clark, *s. w.*	Clarksville	
Conecuh, *s.*	Sparta	
Covington, *s.*	Montezuma	
Dale, *s. e.*	Richmond	
Dallas, *m.*	Cahawba	
Decatur, *m.*	Woodville	
Fayette, *m. n.*	Fayette	
Franklin, *n. w.*	Russellville	
Green, *w.*	Erie	

Henry, *s. e.*	Columbia	2638
Jackson, *n. w.*	Bellefonte	8751
Jefferson, *w. n.*	Elyton	
Lauderdale, *n. w.*	Florence	4963
Lawrence, *n. w.*	Moulton	
Limestone, *n.*	Athens	9871
Madison, *n.*	Huntsville	17481
Marengo, *w. s.*	Lynden	2933
Marion, *w. n.*	Pikeville	
Mobile, *s. w.*	Mobile	2762
Monroe, *s. w.*	Claiborne	8838
Montgomery, *w. s.*	Montgomery	6604
Morgan, *n.*	Somerville	5263
Perry, *m.*	Marion	
Pickens, *w.*	Pickens	
Pike, *e. s.*	Liberty	
St. Clair, *w. n.*	Ashville	4166
Shelby, *w.*	Montevallo	2416
Tuscaloosa, *m. w.*	Tuscaloosa	8229
Walker, *m.*	Walker C. H.	
Washington, *w. s.*	St. Stephens	
Wilcox, *m. s.*	Canton	2917

The census of Alabama by the Marshall's return, was so very defective, that by subsequent information laid before Congress, a deficit of upwards of 16,000 was shewn; consequently the state in 1820 actually contained 143,000 inhabitants. The number at this epoch, 1820, no doubt exceeds 250,000.

ARKANSAS TERRITORY.

Boundaries, extent and position.—This extensive region is bounded by the state of Missouri N., the Mississippi river E., Louisiana S., Texas S. W. and W., and the western territory of the United States N. W.

Miles.

Beginning on the right bank of the Mississippi river at N. lat. 36½° opposite the N. W. angle of Tennessee, thence down the Mississippi river, opposite Tennessee, by comparative *courses,* 170

Continuing down the Mississippi, opposite the state of Mississippi to the Northern boundary of Louisiana, on N. lat. 33°. 1

Thence due west along northern boundary of Louisiana, 1

From the N. W. angle of Louisiana to the S. W. angle of Missouri, the limits of Arkansas, as laid down on our maps, follow and form the boundary between the United States and Texas, to lon. 100° W. of Greenwich, thence due N. to N. lat. 36½°, and thence due east to the S. W. angle of Missouri, the three latter courses taken together, about 8

Thence continuing due E. to the right bank of St. Francis river, and along S. boundary of Missouri, 2(

Down St. Francis to N. lat. 36°

Thence E. to the place of beginning,

Having an entire outline of 13

Extending geographically, from N. lat. 33° to lat. 36½°, and in lon. from 12° 44′ to 23° 05′ W.

Greatest length from the Mississippi river alo lat. 36°, 550 miles; mean breadth 220; area 12 340 square miles.

Natural Geography.—Arkansas is naturally d vided into three sections; the eastern or alluvi towards the Mississippi river; the central or mou tainous, broken by the Maserne system; and t western or prairie. The eastern or alluvial secti derives its name rather than character, from t alluvion of the Mississippi. Proceeding westwa from that stream, an unbroken plain covered with dense forest, is succeeded by a very gradual asce partially forest and partially prairie, rising into hil of increasing elevation, advancing westward.

An humble, though distinct chain of mountai rises in Missouri, and stretching southwest ov Arkansas, terminates in Texas, towards the Ri

del Norte. This chain is the Osark of Major Long, and the Maserne of Darby's Louisiana. Both terms are corruptions; Ozark is the provincial vulgarism for Arkansas, and Maserne is Mount Cerne disguised.

The western interior and prairie section of Arkansas, as extensive if not more so than both the preceding, is properly the commencement of that ocean of grass which spreads from the forests of the Mississippi to the summits of the Chippewayan. From these grassy plains issue those numerous confluents which by their union, form the great volume of the Arkansas. The Canadian river itself, a considerble stream, formed by three branches, unites with the Arkansas proper at the western foot of the Maserne mountains, and together forms the second largest constituent branch of the Mississippi. Breaking through the opposing mountains, the Arkansas rolls its now accumulated mass towards the Mississippi, but in a comparative course of 300 miles receives no farther accession of water beyond the size of a large creek.

White and St. Francis rivers rise in Missouri, and flowing southward, enter Arkansas, which they traverse in a nearly parallel direction, about 50 miles asunder, the former joining its recipient but a few miles above the mouth of the latter.

Washita river rises in southern Arkansas amid the rugged vallies of the Maserne, and draining the angle between Red, Arkansas and Mississippi, assumes a southern course and enters Louisiana.

Red river forming for upwards of 400 miles the southwestern boundary of Arkansas, like the Washita enters Louisiana, and opens central Arkansas to a direct communication with New Orleans.

The general features of this extensive region are too defectively explored to admit minute notice, much less detailed description. The Maserne tract is supposed to be in a high degree prolific in miner-

al treasures, in fact the lower lead mines of Missouri, at and around Potosi, belong to this region. Muriate of Soda (common salt,) so much abounds in the western plains, as to render impotable the waters of Arkansas.

Political features.—That part of Arkansas yet organised into counties, extends over about 70,000 square miles, stretching from the Mississippi river between Louisiana and Missouri. The settlements yet made are principally on the streams, and in great part on Arkansas and White rivers. The seat of government is at Little Rock on the right bank of Arkansas, at N. lat. 34° 43′, lon. 15° 15′ W. and by comparative courses about 120 miles above the discharge of that stream into the Mississippi.

For political purposes, Arkansas is subdivided into the following counties:

Counties.	*Chief Towns.*	*Pop.* 1820.
Arkansas, *s. e.*	Arkansas	1260
Chicot, *s. e.*	Villemont	
Clark, *m. s.*	Clark C. H.	1040
Conway, *m. e.*	Marion	
Crawford, *m.*	Crawford C. H.	
Crittenden, *e. n.*	Greenock	
Hampstead, *s.*	Washington	2248
Independence, *n. e.*	Batesville	
Izard, *n.*	Izard C. H.	
Lafayette, *s.*	Lost Prairie	
Laurence, *n. e.*	Davidsonville	5602
Lovely, *m. n.*	Nicksville	
Miller, *s.* on Red riv.	Miller C. H.	999
Philips, *e.* on St. Fran.	Helena	1201
Puslaske, *n. e.*	LITTLE ROCK	1923
Total		14,273

Of the preceding aggregate, 12,579 were whites; 59 free coloured; 1618 slaves; all others 18. Sup-

posed increase since 1820, at 5 per cent per annum,

1821—14,986	1825—18,227
1822—15,736	1826—19,137
1823—16,523	1827—20,095
1824—17,360	1828—21,100

The real existing population, however, no doubt considerably exceeds the result of this estimate.

History.—Arkansas was discovered and settled by the French, under the Chevalier de Tonti, as early as 1685. In the various transfers of territory, it followed the fate of other parts of Louisiana, until February 1819, when by a law of Congress, that part of Louisiana between the state of Louisiana or N. lat. 33°, and the southern boundary of Missouri, was erected into a separate territorial government, and continues such to the present epoch.

CONNECTICUT.

Boundaries.—Long Island sound S., New York W., Massachusetts N., and Rhode Island E.

	Miles.
Having a boundary along the sound,	95
Along New York,	80
East along Massachusetts,	85
Thence with Rhode Island to Long Island sound,	50
Outline,	310

Length from E. to W. 85, mean width 60 miles, and area 5050 square miles, extending from 40° 59′ to 42° 02′ N., and in lon. from 4° 18′ to 5° 12′ E.

Natural Geography.—Though generally hilly and in part mountainous, no part of Connecticut rises to great elevation above the level of the ocean. The sea border of this state is in a peculiar manner indented by fine harbors, of which New London, New Haven, Bridgeport and Norwich are only the principal. The state is drained by the Houssatonick

and Thames, and traversed by Connecticut river. The face of the country is most pleasingly varied by hill, mountain, dale and plains, which decorated by cultivation, gives a seductive aspect to Connecticut. The narrow limits geographically, and the little difference of elevation of parts in Connecticut, preclude much diversity of climate, yet there is a difference in the seasons sufficiently marked, between the southern border on the sound, and the interior towards Massachusetts.

The productions of Connecticut, are similar to other of the middle Atlantic states. Grain and fruit abound, but objects of manufacturing industry bid fair to become the paramount staples of this active state.

Political Geography.—Hartford in Hartford county, and on the left bank of Connecticut river, is the capital, if not the largest city in the state, though four others are incorporated as cities, New Haven, New London, Middletown and Norwich, and the whole state is decorated with neat and flourishing villages, many with the aspect of cities. Hartford stands near the centre of the state at N. lat. 41° 46′, lon. 4° 22′ E. Pop. 1820, 4726.

Counties.	*Chief Towns.*	*Pop.* 1820.
Hartford, *n.*	Hartford	47,264
Fairfield, *s. w.*	Fairfield	42,734
Litchfield, *n. w.*	Litchfield	41,267
Middlesex, *s.*	Middletown	22,401
New Haven, *s.*	New Haven	39,616
New London, *s. e.*	New London	35,943
Tolland, *n.*	Tolland	14,330
Windham, *n. e.*	Brooklyn	31,684
Total,		275,239

Classified population in 1810.

Free white males,	126,373
do. females,	128,806
Free coloured persons,	6,453
Slaves,	310
Total in 1810,	261,942

Population in 1820.

Free white males,	130,807
do. females,	136,374
Total whites	267,181
Free persons of colour, males,	3,863
do. females,	4,007
Slaves,	97
All other persons,	100
Total in 1820,	275,248
Of these, engaged in Agriculture,	50,518
do. Manufactures,	17,541
do. Commerce,	3,581

History.—First settlement 1634, by two colonies, Connecticut and New Haven, which were united in 1662, under the former name. This state has in uninterrupted prosperity followed the fate of her sister states, and most fortunately has few events in her progress to swell that volume of recorded calamity, human history.

Yale College at New Haven, founded 1701, deserves much better to be noticed, than those events usually spread over the pages of historical record. This seminary is of the first order, but is not the only establishment of learning at New Haven. A Theological Seminary was formed there in 1820. The Deaf and Dumb Asylum at Hartford, was the first institution of that species in America; it was founded 1817.

DISTRICT OF COLUMBIA.

Boundaries.—S. E., N. E., and N. W. by Maryland, and W. and S. W. by Virginia. This tract was laid out inclining 45° from the meridians, 10 miles each way, containing 100 square miles.

The Capitol in Washington, and the first meridian used in this View, stands at 39° 53′ 30″ N. lat., and from the most approved observations 76° 55′ 30″ W. of the Royal Observatory, Greenwich.

Natural Geography.—Potomac river meets the Atlantic tides at Georgetown, and traverses the District in a direction nearly south-east, receiving a small but important confluent, the Eastern Branch. The latter, rising about 20 miles north from Washington, enters the north-east side of the District, dilates into a wide bay, and joining the Potomac forms a most spacious harbour, with adequate depth for the largest vessels. The City of Washington extends over the peninsula, between the two branches.

The general surface of the District is waving rather than hilly, with a thin sandy soil. The particular site of Washington is in a high degree pleasing, giving by the wide sweep of the hills an idea of vastness to the scene. Rock creek entering from the north, near the north-west angle of the District, and entering Potomac, separates Georgetown from Washington. The former, seated on the point between Rock creek and Potomac, occupies a rather rapid acclivity from both streams, and presents in its bold front a complete contrast to Washington and Alexandria.

Political Geography. The District of Columbia, as it was afterwards located, was ceded to the United States by Virginia and Maryland, under an express provision of the Constitution of the United States. The acceptance, by act of Congress, took place July 16th, 1790, and the foundation of the

Capitol laid, in the presence of General Washington, September 16th, 1793. Congress first convened there December 1800.

The City of Washington, inconvenient as it is in respect to public business, has grown with considerable rapidity, and bids fair to receive from the Potomac canal such an acceleration as to place it, in a brief period, amongst the great emporia of the United States. Its conflagration, in 1814, independent of local advantages, has fixed the seat of the General Government, by exciting the just and everduring indignant feelings of a brave and free people. The Gauls burnt Rome, and the Gauls sunk under and for many ages submitted to Roman power.

Alexandria stands on the right bank of the Potomac, very nearly 7 miles south from the Capitol. It is laid out at right angles very nearly with the course of the river in front, and the streets at right angles to each other.

Georgetown is similar to Alexandria, laid out at right angles, but the main transverse streets of the former conform to those of Washington.

Population of the three cities in 1820:

Washington - -	13,322
Alexandria - - -	8,218
Georgetown - -	7,360
Aggregate - - -	28,900

The Columbian Institute in Washington, and the Roman Catholic College, or rather University, in Georgetown, are the only seminaries on a large scale in the District; both are in active operation.

The government of the District of Columbia is a non-descript; it is subject to the immediate and exclusive legislation of the Federal Government, yet by act of Congress, February 27th, 1801, the laws of the two states from which it was taken remain in

force, in the respective parts taken from each. Th
Virginia part comprises the county of Alexandri
and the Maryland part the county of Washington.

Population of the different parts in 1820.

	Whites.	Free Coloured.	Slaves.	Amoun
Washington City	9607	1696	1944	13,24
Georgetown	4940	894	1526	7,36
Washington county	1512	168	1049	2,72
Alexandria	5615	1168	1435	8,21
Do. county	941	122	422	1,48
	22,615	4048	6376	33,03

Distributive Population in 1820.

Free Whites, males - - - -	1117
Do. females - - -	1144
	2261
Free Coloured, males - - - -	173
Do. females - - - -	231
Slaves, males - - - - -	300
Do. females - - - - -	337
Total - - - -	33,03
Of these engaged in Agriculture -	85
Do. Manufactures - -	218
Do. Commerce -	51

History.—The brief history of the District of Co-
lumbia has been in great part anticipated, unde
the head of Political Geography, but the commence
ment, on July 4th, of the Chesapeake and Ohio Ca-
nal, is too important an event to be unnoticed in
View, however brief. In any respect, whether w
regard its advance as enhancing the prosperity o
the seat of general legislation; as adding one grea
link more to the chain of intercommunication; or a
a display of youthful national vigour, this great

work is of the very first importance. Its progress will be regarded with deep interest by, I might be permitted to say, the civilized world.

DELAWARE.

Boundaries, extent, and position.—S. and W. by Maryland, N. by Pennsylvania, E. by Delaware bay, and S. E. by the Atlantic ocean.

	Miles.
Beginning on the Atlantic ocean at Fenwick's island, thence west along Maryland -	36
Thence northward, along Maryland, to the commencement of the semicircle around New Castle - - - - - -	87
Along the semicircle and Pennsylvania to the Delaware river - - -	26
Thence down Delaware bay to Cape Henlopen	90
Thence along the Atlantic ocean to Fenwick's island - - - - - -	20
Having an entire outline of - -	259

Length 100, mean width 21, and area 2100 square miles, extending from lat. 38° 27′ to 39° 50′ N.

Natural Features. Delaware is the second smallest state of the United States, and the least diversified in surface. The more northern part is hilly and waving, but gradually becomes more monotonous advancing towards the Atlantic ocean. The actual dividing line between the waters of Delaware and Chesapeake bay is in Delaware, but so far from being a ridge is mostly an extended flat, from which the Pocomoke, Nanticoke, Choptank, Chester, and Sassafras rivers ooze, rather than flow, into Chesapeake bay; and a number of unimportant creeks flow into the Delaware. The soil, in some places excellent, is generally thin, and in many places marshy. The climate more distinctly different, at the extremes, than could be expected from

a difference of latitude of only 1° 23′, and no c siderable difference of level. Fruits are abund grain and meadow-grass the general objects of a cultural pursuit. From the mean annual tempera of Baltimore, it is evident cotton might be mac staple crop of Delaware, and the eastern shor Maryland. Wherever there is 140 days witl frost, cotton will fully ripen, and produce sufficie for profitable cultivation. But little metallic we can be expected in a region so approaching to cent alluvion as Delaware.

Political Geography.

Counties.	*Chief towns.*	*Pop.* 1
Kent, *m.*	DOVER	20
New Castle, *n.*	New Castle and Wilmington	27
Sussex, *s.*	Georgetown	24
		72

Progressive Population.

1787—37,000	1800—64,273
1790—59,094	1810—72,674

History.—Delaware was peopled by the Swe and Fins as early as 1627. The colony was forı under the auspices of Gustavus Adolphus, Kin Sweden, who named the country Nova Sue Hoarkill, now Lewistown, was founded 1630, the Dutch claiming the country it passed under t power in 1655. In 1664, the colony on the D ware fell, with other parts of New Amsterdam, the hands of the English, and was granted Charles II. to his brother James Duke of Y who, in 1682, conveyed it, as far as Cape Henlo to William Penn. In 1704, Delaware, though der the same proprietor, became a separate colo establishment, and remained such until the rev tion. Constitution formed 1776.

The very important Chesapeake and Delaw canal crosses this state, and in its creation forms

of the most remarkable periods of its history. As a manufacturing state, Delaware holds a rank far above its relative extent and population. The works near Wilmington are extensive and highly valuable. As early as 1810, the value of the various manufactures exceeded $1,733,000.

FLORIDA.

Boundaries, extent, and position.—Florida has the Atlantic ocean E., Florida channel S., the Gulf of Mexico S. W., Alabama W. and N. W., and Georgia N.

	Miles.
Commencing at the mouth of St. Mary's river, and thence along the Atlantic ocean to Florida point - - - -	450
Upon the Gulf of Mexico, from Florida point to the Perdido river - - -	600
Up Perdido bay and river to N. lat. 31°	60
Thence east along N. lat. 31°, and the south boundary of Alabama, to Chatahooche river	150
Down Chatahooche to the influx of Flint river	25
Thence eastward to the head of St. Mary's river	150
Down St. Mary's to its mouth - -	80
Entire outline - - - -	1515

Following a curve line along the peninsula, from Florida point, and continuing to Perdido river at N. lat. 31°, the length of Florida is about 600 miles, mean breadth 90, and area 54,000 square miles, or 34,560,000 acres. This territory extends from lat. 24° 40′ to 31° N. and in long. from 3° to 10½° W.

Natural Geography.—Embracing 6 degrees of latitude, a considerable difference of seasons must be experienced in Florida; but from the general uniformity of surface, and from being enclosed on three sides by the sea, the transitions of temperature are seldom very rapid or violent. Florida is

naturally subdivided into two very different zones, by the 28th degree of latitude. Above the latter curve the surface of the country is more broken, better timbered, and soil much superior to the southern zone towards Florida point. The latter in great part marshy, flat, and devoid of timber, is the true palm tree section of the United States. In all Florida the proportion of good to bad soil is very small, but the asperities of the soil will, in some measure, be compensated by the mildness of the climate. Latitude 28° is a real limit of climate, as below that curve snow is unknown, and frost, though occasional, is rare. The sugar cane can be cultivated successfully, where the soil will suit, in all the maritime parts of Florida, as may the orange, lime, and shaddock. Rice, indigo, tobacco, Indian corn, and a rich variety of fruit trees compose the most important cultivated vegetables of Florida; the vine, olive, and perhaps coffee, might be added.

Many of the northern districts of Florida are finely variegated and fertile tracts. The country around the new capital Tallahassee, is calcareous and remarkable for streams rising into considerable volumes, and then sinking into the vast chasms in the limestone rocks. Natural bridges are frequent, and remarkable in the various branches of Santa Fe river.

Florida has been considered, when compared with its tropical neighbourhood, a healthy country. Humboldt, and others, regard the palms as marking the range of tropical diseases; a connection, it is probable, not altogether imaginary. A similar coincidence has been remarked between disease and the long moss of Louisiana, Florida, and Georgia. These two vegetables advance and terminate in most instances nearly together.

Florida though, for a country containing upwards of 1000 miles of sea coast, not abounding in good *harbours*, does, however, possess a few which are

excellent; Pensacola, Tampa, Charlotte Harbour, St. Augustine, and St. Mary's, are the principal, the two former and the latter admitting vessels of 20 feet draught. One large river, the Appalachicola, has its estuary in Florida, but does not afford a depth of water in proportion to its magnitude.

The rivers of Florida have been noticed, the principal are St. John's, St. Mary's, Suwannee, Ocklockonne, Appalachicola, Choctaw, the confluents of Pensacola, and Perdido; which can be seen under their respective heads.

Political Geography.—Tallahassee, the present capital of Florida, is situated in the county of Leon, and in that remarkable calcareous region, already noticed, between the Ausilly and Ocklockonne rivers. The city, for such it is denominated by charter, is not placed on any navigable stream, nor is any navigable point within several miles of the place. The location was made under the authority of the Legislative Council of Florida, December 12th, 1824, at N. lat. 30° 27′, long. 7° 23′ W., about 26 miles nearly due north from Ocklockonne bay.

Counties.	*Chief towns.*
Alachua, *m.*	Dell's
Duval, *n. e.*	Jacksonville
Escambia, *n. w.*	Pensacola
Gadsden, *m. n.*	Quincy
Hamilton, *m. n.*	Miccotown
Jackson, *n. w.*	Webaville
Jefferson, *m. n.*	Monticello
Leon, *m. n.*	Tallahassee
Madison, *m. n.*	Hickstown
Monroe, *extreme s.*	Thompson's Island
Mosquetoe	Xemska
Nassau, *n. e.*	Fernandina
St. John's, *s.*	St. Augustine
Walton, *w.*	Alaqua
Washington, *m.*	Holmes' Valley.

Of the population of Florida I am una speak with any precision. At the cession territory, in 1821, the inhabitants were estima 10,000, and have no doubt increased; 14 or would, it is probable, be a moderate estimate f existing numbers.

History.—Florida, from *Pasqua Floria* Palm Sunday, was imposed by Juan Ponce de the Spanish discoverer, in 1512. When im and long afterwards, the name of Florida was ral, in Spanish literature, for the Atlantic c North America. The first effective coloni was made at St. Augustine, in 1565, when th was founded. With many vicissitudes of fo Florida remained to the Spaniards until 1763, it was ceded to the British government. In the Spanish governor of Florida, Don Galvez quered West Florida, and by the treaty of 1783, the whole of both Floridas were re-ced Great Britain to Spain.

In 1819, negociations were opened betwee United States and Spain, for the cession of F to the former, and a treaty to that purpose fo This treaty was ratified by Spain, October 18 the United States, February 1821; and in July, latter year, finally taken possession of by G Jackson, by order of his government. It is territory of the United States.

GEORGIA.

Boundaries, extent, and position.—By the lantic ocean S. E., Florida S., Alabama W., Carolina N., and South Carolina N. E.

Beginning on the Atlantic ocean at the mout of Savannah river, and thence along tha ocean to the mouth of St. Mary's river

Up St. Mary's river - - -

	Miles.
Carried over - - - -	185
Thence along Florida, westward, to the junction of Flint and Chatahooche rivers	150
Up Chatahooche to the south-east angle of Alabama - - - -	25
Thence with the eastern boundary of Alabama to Nickajack on the southern boundary of Tennessee - - - -	306
Thence east along Tennessee to north-west angle of North Carolina - -	80
Continuing east, along N. Carolina, to Chatuga branch of Savannah river - -	67
Down Chatuga, Tugaloo, and Savannah rivers to the mouth of the latter - -	260
Entire outline - - - -	1073

Length from north to south 300, mean breadth 203, and area 61,000 square miles, equal to 39,040,000 statute acres. Extending from lat. 30° 22′ to 35° N., and in long. from 3° 50′ to 8° 38′ W.

Natural Geography.—Georgia is very much the most diversified state of the United States, both as to soil and relative elevation. It is subdivided by the hand of nature into three zones, with very distinct features. The lowest, most south-eastern, and what may be called the tropical zone, rises by a very slow acclivity from the Atlantic ocean, commencing in a series of islands. This is in its oceanic margin a recent alluvion; and is followed by a sandy tract of little more elevation, but reaching to the falls of the rivers. The third, or hilly, and finally mountainous section, is most extensive, fertile, and salubrious. From the level of the Atlantic islands to the mountain vales of Chatahooche and Etowah rivers, must be a difference of elevation of 12 or 1500 feet; at the lowest an equivalent to 3° of lat. which, added to 4° 38′ gives a difference of 7° 38′ in temperature.

The mountainous northern extremity rises into an elevation favourable to the apple and cereal gramina, while the southern extremity on the Appalachicola, Suwanne, St. Mary's, Santilla, and Alatamaha, has a temperature suitable to the sugar cane, orange, olive, date, and lemon. Between those extremes vegetable production has indeed an extensive limit; it may be asserted that few, if any, regions of the earth, of equal extent, admit the profitable cultivation of more numerous vegetable species. Besides those already named, may be added cotton, rice, tobacco, and indigo; of fruits, the peach, fig, pomegranate, plum, &c.

In its effects on the human body the climate of Georgia is not less marked, in its extremes, than on vegetable life. The sea border is a region of palms, and, as has been demonstrated in this View, has a mean temperature at least two degrees above that of equal latitudes in the basin of Mississippi. In summer the Atlantic border is a real tropical climate, whilst towards North Carolina and Tennessee the mountain vales smile under a mitigated sun.

In metallic matter, except iron, Georgia is not productive. Cotton, rice, and sugar may be regarded its staples. The former has, however, so far predominated, and the Atlantic islands producing a peculiar kind of superior value, that it might, with out much error, be considered the exclusive stapl of the state. The sweet orange and sugar cane ca be cultivated with complete success along the who ocean border, and for some distance inland.

Political Geography.—Milledgeville, the seat government, is situated on the right bank of Ocor river, in Baldwin county, N. lat. 33° 06′, long 16′ W. The whole state being an immense incli plain, down which navigable rivers flow at ev 20 or 30 miles distance, precludes the rise of very large interior city. The fine streams of *Savannah,* Ogeeche, Alatamaha, Santilla, and

Mary's on the S. E., the Appalachicola and its confluents S. W., and the higher branches of the Coosa N. W. give great navigable facilities, but divert the commerce of the inhabitants to too many and distant points to admit the rise of large emporia. Savannah, on Savannah river, with a population of 8000, is the largest city in the state. For political purposes Georgia is subdivided into the counties of —

Counties.	*Chief towns.*	*Pop.* 1820.
Appling, *s.*	Applingville	1264
Baker, *s. w.*	Byron	
Baldwin, *m.*	MILLEDGEVILLE	7734
Bibb, *m. w.*	Macon	
Bryan, *s. e.*		3021
Bullock, *s. e.*	Statesboro	2578
Burke, *s. e.*	Waynesboro	11577
Butts, *m. w.*	Jackson	
Camden, *s. e.*	Jefferson	4342
Carroll, *w.*	Carrollton	
Chatham, *e.*	Savannah	14737
Clarke, *m. n.*	Watkinsville	8767
Columbia, *e. n.*	Columbia C. H.	12695
Cowets, *w.*	Newnam	
Crawford, *m. w.*	Knoxville	
Decatur, *s. w.*	Bainbridge	
De Kalb, *w.*	Decatur	
Dooly, *s. w.*	Berrien	
Early, *s. w.*	Blakely	768
Effingham, *e.*	Willoughby	3018
Elbert, *e. n.*	Elberton	11788
Emanuel, *m. e.*	Swainsboro	2928
Fayette, *w.*	Fayetteville	
Franklin, *n. e.*	Carnesville	9040
Glynn, *s. e.*	Brunswick	3418
Greene, *m. n.*	Greensboro	13589
Gwinnett, *n. w.*	Lawrenceville	4589
Habersham, *n.*	Clarkesville	3145
Hall, *n.*	Gainesville	5086

Counties.	*Chief towns.*	*Pop.* 1820.
Hancock, *m.*	Sparta	12734
Harris, *w.*	Hamilton	
Henry, *m. w.*	M'Donough	
Houston, *w.*	Perry	
Irwin, *s.*	Irwinville	411
Jackson, *m.*	Jefferson	8355
Jasper, *m.*	Monticello	14614
Jefferson, *m. e.*	Louisville	7056
Jones, *m.*	Clinton	16560
Laurens, *m.*	Dublin	5436
Lee, *w. s.*		
Liberty, *s. e.*	Riceboro	6695
Lincoln, *e.*	Lincolnton	6458
Lowndes, *s.*	Lowndboro	
Madison, *n. e.*	Danielsville	3735
M'Intosh, *s. e.*	Darien	5129
Marion, *s. w.*		
Merriwether, *w.*	Merriwether C. H.	
Monroe, *m. w.*	Forsyth	
Montgomery, *m. s.*	Mount Vernon	1862
Morgan, *m. w.*	Madison	13520
Muscogee, *w.*	Columbus	
Newton, *m. n.*	Covington	
Oglethorpe, *n. e.*	Lexington	14046
Pike, *w.*	Zebulon	
Pulaski, *m. s.*	Hartford	5283
Putnam, *m.*	Eatontown	15475
Rabun, *n.*	Clayton	524
Richmond, *e.*	Augusta	8608
Scriven, *e.*	Jacksonboro	3941
Talbot, *w.*	Talbotton	
Talliaferro, *m.*	Crawfordsville	
Tatnall, *s. e.*	Perry's Mills	2644
Telfair, *m. s.*	Jacksonville	2104
Thomas, *s.*	Thomasville	
Troup, *w.*	Troup C. H.	
Twiggs, *m.*	Marion	10640
Upson, *m. w.*	Thomaston	
Walton, *m. n.*	Monroe	4192
Ware, s.	Wareboro	

Counties.	*Chief towns.*	*Pop.* 1820.
Warren, *m. e.*	Warrenton	10630
Washington, *m.*	Sandersville	10627
Wayne, *s. e.*	Waynesville	
Wilkes, *e.*	Washington	
Wilkinson, *m.*	Irwinton	
Total		340,989

Summary of distributive Population.

Sections.	Whites.	Free Col'd.	Slaves.	Total.
Maritime tract	64,394	1,223	58,464	124,964
Central or hilly	96,724	519	83,825	181,068
Mountainous	29,250	76	5,621	34,957
Total	190,368	1,818	147,910	340,989

Of these, engaged in agriculture 97,221; in manufactures, 3,427; in commerce, 1,989.

In 1824, the population of Georgia had risen to an aggregate of 392,900; of whom 222,282 were white, and 170,618 people of colour. This is an increase very nearly at the rate of 5 per cent. per annum; and would yield in

1822	358,050	1827	456,968
1823	375,950	1828	479,816
1824	392,900	1829	503,800
1825	414,484	1830	529,000
1826	435,208		

History of Georgia.—This colony was the last founded by the British government in the now United States. Georgia was named, and granted by patent in 1732, to Gen. James Oglethorpe, and Savannah founded 1733. In 1752, it was made a royal government, and in 1755, a general representative assembly established. From its original foundation until the close of the last Indian war, 1818, Georgia has been more vexed by distressing petty warfare than any of the colonies. Whilst under Great Britain, the proximity of this colony to Flori-

da, exposed its southern frontier to frequent and ruinous invasions. In the revolutionary war it had its full share of danger and suffering, and it is only recently that the western border has been relieved from Indian depredation. Though colonised nearly a century, Georgia in many respects has had an advance similar to those states and territories which have been formed since the revolutionary war, and such is its progress at present, that in population and wealth it is rapidly gaining upon the more ancient states of the Atlantic slope. That part actually organised into counties in 1829, comprises about 50,000 square miles, and contains only 10½ to the square mile. If populated generally equal to some of the central counties, say 30 to the square mile, would give an aggregate of 1,500,000, and if only equal to South Carolina, about 20 to the square mile, one million of inhabitants.

ILLINOIS.

Boundaries, extent and position.—This state has the Mississippi river W. and S. W., Ohio and Wabash rivers S. E., Indiana E., lake Michigan N. E. and the Trans-Michigan territory N.

Commencing at the junction of Ohio and Mississippi rivers, and thence up the latter opposite Missouri to the mouth of Le Moine river, by comparative courses,	340
Continuing up the Mississippi to N. lat. 42° 30′,	200
Thence due E. to lake Michigan,	167
Along lake Michigan,	57
Thence due S. along W. boundary of Indiana,	162
Down the Wabash to the mouth,	120
Down the Ohio river to the mouth,	130
Having an entire outline of	1176

Length from the junction of Mississippi and Ohio rivers at N. lat. 37°, to the northern boundary of the state, N. lat. 42° 30′, 382 miles; mean breadth 154, area 58,900 square miles, equal to 35,696,000 statute acres.

Natural Geography.—Illinois is, after Virginia, Georgia and Missouri, the fourth in point of extent, and in general fertility of soil the first state of the United States. Extending over a zone of 5½° of latitude, it embraces the greatest extreme north and south; Georgia and New York only embracing each 4½°. Illinois is comparatively a great and very gently inclining plain. It is a country of so very little difference of level, that it may be doubted whether the general level varies 600 feet. The mouth of Ohio, we have seen, is about 321 feet above the level of the Atlantic Ocean, and it is probable that from 400 to 1000 would be a safe estimate for the state. With all its uniformity of surface, the climate at the extremes, differs very materially in temperature. By reference to tables 42 and 45, pages 376 and 379, it will be seen that at Green bay, 2 degrees north from Illinois, the thermometer has fallen to 38 below 0°, and at New Harmony 38° 11′ N. opposite the southern part of that state, to 5° below 0°. If a due comparison is made with contiguous places, it is rendered doubtful whether the mean heat of any part of Illinois would amount to 53°. The Council Bluffs lat. 41° 25′, is found only 50°.82 of Fahrenheit. The too high temperature of New Harmony and Cincinnati, by the table, has been accounted for, and shewn to arise from observing exclusively while the sun was above the horizon.

Illinois in regard to soil, resembles Ohio and Indiana, but with less of flat and irreclaimable land than either, and generally more rich plain than both the latter taken together. The surface is rolling on the S. and W. and level on the N. and E.

The exotic and cultivated vegetables of Illinois are so nearly the same with those of Ohio, Indiana and Kentucky, as to demand but slight separate notice.

Though but a confined section of Illinois has yet been found rich in metallic matter, that section is peculiarly abundant in one of the most useful metals, lead. The county of Jo-Daviess, with the chief town Galena, occupies the N. W. angle of the state and that part of a lead region which is included in Illinois. The ore is also found on the western side of Mississippi opposite the county of Jo-Daviess, and is very abundant and rich.

In navigable facilities, Illinois in a particular manner abounds. It is literally bordered and traversed by streams of the first importance, and with one angle protruded to lake Michigan. The ease with which a canal navigation could be opened from Illinois river into the Canadian sea, has been discussed in more than one part of this view. Illinois is in brief, a state on which a very dense population may and will be supported.

Political Geography.—Vandalia the capital of Illinois stands on the right bank of Kaskaskia river, at N. lat. 38° 57′, lon. 11° 58′ W., about 70 miles N. E. by E. from St. Louis. For civil purposes, Illinois is divided into counties as follows.

Counties.	*Chief Towns.*	*Pop.* 1820.
Adams, *w.*	Quincy	
Alexander, *s.*	America	626
Bond, *m.*	Greenville	2931
Calhoun, *w.*	Gilead	
Clark, *e.*	Clark, C. H.	931
Clay, *e.*	Maysville	
Clinton, *m. w.*	Carlisle	
Crawford, *e.*	Palestine	3022
Edgar, *e.*	Paris	
Edwards, *e. s.*	Albion	3444
Fayette, *m.*	VANDALIA	

Counties.	Chief Towns.	Pop. 1820.
), *s. e.*	Frankfort	1763
m. w.	Lewistown	
, *s. e.*	Shawneetown	3155
w.	Carrolton	
n, *s. e.*	Mc. Leansboro	
:,		
, *s. w.*	Brownsville	1542
), *m. s.*	Mount Vernon	691
:ss, *n. w.*	Galena	
, *s.*	Vienna	843
. *w.*		
:e, *e.*	Lawrenceville	
, *w.*	Edwardsville	13550
s. w.	Salem	
w. n.		
w. s.	Waterloo	1537
ıery, *m.*	Hillsboro	
w.	Jacksonville	
n. n.	Peoria	
. s.	Pinkneyville	
	Atlas	
	Golconda	2610
), *w. s.*	Kaskaskia	3492
, *w. s.*	Belleville	5253
ın, *m. n.*	Springfield	
', *w.*	Bardstown	
m.	Shelbyville	
l, *m. n.*	Mackinau	
.	Jonesboro	2362
ɔn, *e.*	Carolus	
e. s.	Centreville	
w. n.		
ton, *m. w.*	Covington	1517
m. s.	Fairfield	1114
:. *s.*	Carmi	4828
otal,		55,211

By the census of 1820 there were in Illinois, whites 53,788, free coloured persons 506, and slaves 917. Of these were engaged in agriculture, 12,395; in manufactures 1007; and in commerce 233.

History.—The country along the Illinois and Mississippi rivers, was discovered by the French about 1673, and soon after small and unimportant colonies formed at Kaskaskia, and a few other places. These colonies never assumed any magnitude of consequence, and when, at the close of the revolutionary war, this region became a part of the United States territory, it was claimed under the charter of Virginia, and was a wilderness in the far greatest part of its extent. Virginia ceded her claim, and in 1787, Illinois was included in the territory N. W. of the Ohio. In 1801, it was included with Indiana and remained so until 1809, when Illinois was separated and made a territory. In 1818 by act of Congress, a state constitution was formed, and in December of the same year, Illinois became one of the United States.

INDIANA.

Boundaries, extent and position.—The Ohio river or Kentucky S. and S. E., Ohio E., Michigan Territory N., Lake Michigan N. W., Illinois W. and Wabash river S. W.

Commencing on the Ohio river at the influx of the Wabash, thence up the latter opposite Illinois,	120
Thence due N. along Illinois, to lake Michigan,	162
Along lake Michigan,	33
Thence due E. along Michigan territory,	110
Thence due S. along Michigan to the N. W. angle of Ohio,	10
S. continued along Ohio,	177
Thence down Ohio by the bends 353, but by comparative courses,	280
Having an entire outline of	892

ktending from lat. 37° 48′ to 41° 36,′ and in lon.
ı 7° 44′ to 11° W. Indiana is in length 264
s; in mean width 124, and area 34,000 square
s.

ıtural Geography.—With very nearly similar
ıdes to Illinois, but little if any essential obser-
ın on the climate of Indiana can be added to
t was made under the head of the former. In
rd to the respective physiognomy of the two
:s, the resemblance is again equally strong.
, states occupying part of the great western incli-
plain, stretching from the Appalachian system,
se of general level is perceptible near the
). The hills along that stream present a bold-
front, but on advancing northward into the
ior of Indiana, the surface is more monotonous
that of Illinois. The true character of the
:s of this part of the United States has been
:hed. Indiana, though not so advantageously
ted respecting navigable streams as Illinois,
:omprises in the Ohio, and the Wabash and its
ches, great facilities of transportation, and in
moderate elevation of surface above the level
ıe rivers, canals will be comparatively easy of
ution.

ıe elements given in tables 63 and 67, will serve to
bit the temperature of southern Indiana, as far as
ndance can be placed on these elements. Of the
ıern and unsettled sections, we have no data to
cularise the seasons, but from analogy the gen-
temperature must greatly exceed that of Ohio.
er the head of metals, not yet explored, the
ral history of Indiana is barren. Salt, iron, and
: other fossils are met with, but mining enter-
: has not been brought into extensive operation.
ıe agriculture of this state, like its settlement,
its infancy, and in mode and objects of cultiva-
differs but very little from that of Ohio and
ıis. Grain and stock are the staples. Indiana

and Illinois may be said to touch rather than advance into the cotton region. That vegetable may indeed, be cultivated in the southern part of both states, but it is more than probable that the general temperature of the seasons is too low to admit its ever becoming a valuable staple.

Political Geography.—Indianapolis, the seat of the government, is situated in Marion county, on the left bank of White river, at N. lat. 39° 47′, and lon. 9° 03′ W. and very near the centre of the state.

Counties.	*Chief Towns.*	*Pop.* 1820.
Allen, *e. n.*	Fort Wayne	
Bartholomew, *m.*	Columbus	
Clark, *s.*	Charleston	8709
Carroll, *n. w.*	Delphi	
Clay	Bowling Green	
Crawford, *s.*	Fredonia	2583
Daviess, *s. w.*	Washington	3432
Dearborn, *e. s.*	Lawrenceburgh	11468
Decatur, *m. w.*	Greensburgh	3677
Delaware, *m. e.*	Munseytown	
Dubois, *s. w.*	Portersville	1168
Fayette, *e.*	Connorsville	5950
Floyd, *s.*	New Albany	2776
Fountain, *w.*	Covington	
Franklin, *e.*	Brookville	10763
Gibson, *s. w.*	Princeton	3876
Greene, *w.*	Bloomfield	
Hamilton, *m.*	Noblesville	
Hancock, *m.*	Sugar Creek	
Harrison, *s.*	Corydon	7875
Hendricks, *m.*	Danville	
Henry, *e.*	New Castle	
Jackson, *m. s.*	Brownstown	4010
Jefferson, *s. e.*	Madison	8038
Jennings, *s. e.*	Vernon	2000
Johnson, *m.*	Franklin	
Knox, *w. s.*	Vincennes	5437
Lawrence, *m. s.*	Bedford	4116
Madison, *m.*	Pendleton	

Counties.	*Chief Towns.*	*Pop.* 1820.
Marion, *m.*	INDIANAPOLIS	
Martin, *m. s.*	Hindostan	1032
Montgomery, *m. w.*	Crawfordsville	
Monroe, *m. s.*	Bloomington	2672
Morgan, *m.*	Martinville	
Orange, *s.*	Paoli	5368
Owen, *m. w.*	Spencer	838
Parke, *w.*	Rockville	
Perry, *s.*	Troy	2330
Pike, *s. w.*	Columbia	1472
Posey, *s. w.*	Mount Vernon	4061
Putnam, *m. w.*	Green Castle	
Randolph,	Winchester	1808
Ripley, *s. e.*	Versailles	1822
Rush, *m. e.*	Rushville	2334
Scott, *s.*	Lexington	
Shelby, *m.*	Shelbyville	
Spencer, *s.*	Rockport	1882
Sullivan, *w.*	Merom	3498
Switzerland, *s. e.*	Vevay	3934
Tippecanoe, *w. n.*	Lafayette	
Union, *e.*	Liberty	1798
Vanderburgh, *s. w.*	Evansville	
Vermillion, *w.*	Newport	
Vigo, *w.*	Terre Haute	3390
Wabash,		147
Warren,		
Warwick, *s. w.*	Boonville	1749
Washington, *s.*	Salem	9039
Wayne, *e.*	Centreville	12119
Total,		147,198

Of these, by the census of 1820, were whites, 145,758; free persons of colour, 1,230; and slaves, 190; the whole thus classed: engaged in agriculture, 61,315; in manufactures, 3,229; and in commerce, 429.

Progressive Population.

1800	5,640	1825	250,000
1810	24,520	1828	300,000 rising.
1820	147,178		

History.—The first known civilized settlement made in Indiana, was formed about 1690, by the French at Vincennes, but remained of little consequence. This remote village was reached by the calamities of the revolutionary war, and followed the fortune of other parts of the western country. Settlements, by the people of the United States, began to be extensively formed after the treaty of Grenville, in 1795. It was erected into a territory, including Illinois, in 1801. The latter was separated from the former in 1809, when each constituted an independent territory. In 1815, Indiana having the requisite number of inhabitants, 60,000, was permitted by Congress to form a state constitution, which was done, and in the following year was formally admitted into the Union as an independent State.

KENTUCKY.

Boundaries, extent, and position.—Virginia E., Tennessee S., Mississippi river or state of Missouri, S. W.; Ohio river, or Illinois and Indiana N. W.; Ohio river, or state of Ohio, N. E.

	Miles.
Commencing on Mississippi river at the N. W. angle of Tennessee, thence up that stream opposite the state of Missouri, to the mouth of Ohio	42
Up Ohio river opposite the state of Illinois, to the mouth of Wabash,	130
Continuing up Ohio river opposite Indiana by comparative courses, to the influx of Great Miami,	280

Continuing up Ohio river, opposite the state

of Ohio, to the mouth of Big Sandy,	173
Thence up Big Sandy to its passage through Cumberland mountain,	70
Along Cumberland mountains to the northern boundary of Tennessee, on lat. 36° 35′,	106
Thence westward, along Tennessee to Tennessee river,	242
Up Tennessee river to N. lat. 36° 30′,	12
Thence due west along N. lat 36° 30′, to the point of outset on Mississippi river,	84
Entire outline	1139

The greatest length of Kentucky is from the S. W. angle of the state on Mississippi river, to the extreme eastern point on Big Sandy, 380 miles; mean width 99, and area 37,680 square miles, equal to 24,115,200 statute acres.

Extreme S. at N. lat. 36° 30′; extreme N. at the great Miami Bend, 39° 08′; between longitudes 5° and 12° 25′ W.

Natural Geography.—A single glance upon its map is only necessary to shew that Kentucky must present considerable diversity of soil, surface, and climate. The S. E. part is mountainous, and from this section rise the most important rivers which traverse the state, Cumberland, Kentucky, Licking, and Great Sandy. The state is naturally divisible into three distinctive portions, the mountainous S. E.; comparatively level, in the centre and S. W.; and hilly, along the Ohio river. If contrasted, however, with the plains of Louisiana, Arkansas, and Missouri, no part of Kentucky is level. In no other parts of the United States do the water courses flow in chasms so deeply cut into the solid rocks. The substrata generally limestone. Towards the mountains the physiognomy of the country presents steep hills, with narrow, deep, and gloomy valleys; this aspect gradually changes in descending the rivers, and is followed by a fine rolling country, but with, in

many places, a scarcity of spring water. On the border of Tennessee, spreads the "*Barrens*," a very deceptive title, as this quarter of the state is by no means in a peculiar manner sterile. The timber of the N. E. section of Kentucky is Liriodendron, elm, oak many species, hickory many species, black walnut, cherry, and a variety of other trees; on the "*Barrens*," the timber trees are oak, chestnut, and elm, generally. The hills of the Barrens are round, gently sloping, and are locally designated "*Oak Knobs*," and in their form deviate remarkably from the common ridges which constitute what is usually denominated a hilly country.

The agriculture of this state partakes of the character of that of every state of the United States beyond the region of sugar and rice. In the southwestern counties, near and on Tennessee, Cumberland, and Mississippi rivers, cotton is a staple, whilst all the grains, fruits, and meadow grasses of the northern and middle states flourish in other sections. The climate is also an epitome of that of all other states on which it borders. The extremes are severe, both as to heat and cold. In the note to table 68, page 407, it is shewn that the thermometer, in the northern part of Kentucky, has fallen to 14° below zero. This might have been an extreme case, but compared to its latitude, the winters of Kentucky are long and severe.

The relative situation of this state is almost mathematically central. Including the already organized states and territories, there is no other state so nearly equi-distant from the extremes. This proximity to other members of the Union, combined with her extensive frontier on Ohio, confers great advantage on Kentucky as a manufacturing state, and the great proportion of her population engaged in manufactures shew how far the advantages of nature have been rendered available.

Political Geography.—Frankfort, the capital of

the state, stands on the right* bank of Kentucky river, in Franklin county, N. lat. 38° 48′, long. 7° 48′ W. 68 miles in a direct line S. S. W. from Cincinatti. Population 1820, 1679.

Counties.	*Chief Towns.*	*Pop. in* 1820.
Adair, *s.*	Columbia	8765
Allen, *s.*	Scottsville	5327
Anderson, *s.*	Lawrenceburg	
Barren,	Glasgow	10328
Bath, *m. e.*	Owingsville	7960
Boone, *n.*	Burlington	6542
Bourbon, *m. n.*	Paris	17664
Bracken, *n.*	Augusta	5280
Breckenridge, *n. w.*	Hardingsburg	7485
Bullitt, *n. w.*	Shepherdsville	5831
Butler, *s. w.*	Morgantown	3083
Caldwell, *w.*	Eddyville	9022
Callaway, *s. w.*	Wadesboro	
Campbell, *n.*	Newport	7022
Casey, *m. s.*	Liberty	4349
Christian, *s. w.*	Hopkinsville	10459
Clark, *m.*	Winchester	11449
Clay, *s. e.*	Manchester	4393
Cumberland, *s.*	Burkesville	8058
Daviess, *w.*	Owensboro	3876
Edmonson, *s.*	Brownsville	
Estil, *m. e.*	Irvine	3507
Fayette, *m.*	Lexington	23250
Fleming, *n. e.*	Flemingsburg	12186
Floyd, *e.*	Prestonburgh	8207
Franklin,	FRANKFORT	11024
Gallatin, *n.*	Port William	7075
Garrard, *m.*	Lancaster	10851
Grant, *n.*	Williamstown	1805
Graves, *s. w.*	Mayfield	
Grayson, *m. w.*	Litchfield	4055
Greene, *m. s.*	Greensburg	11943
Greenup, *n. e.*	Greenupsburg	4311
Hardin, *n. w.*	Elizabethtown	10498

* In speaking of the right or left bank of a stream, it is done in reference to a *descending* course.—H. S. T.

Harlan, *s. e.*	Mount Pleasant	1961
Harrison, *n.*	Cynthiana	12278
Hart, *m. w.*	Mumfordsville	4184
Henderson, *w.*	Henderson	5714
Henry, *n.*	New Castle	10816
Hickman, *s. w.*	Columbus	
Hopkins, *w.*	Madisonville	5322
Jefferson, *n. w.*	Louisville	20768
Jessamine, *m.*	Nicholasville	9297
Knox, *s. e.*	Harbourville	3661
Laurel, *s. e.*	London	
Lawrence, *e.*	Louisa	
Lewis, *n.*	Clarksburgh	3973
Lincoln, *m. s.*	Stanford	9979
Livingston, *w.*	Salem	3824
Logan, *s.*	Russelville	14423
Madison, *m.*	Richmond	15954
Mason, *n.*	Washington	13588
M'Cracken, *s. w.*	Wilmington	
Mead, *n. w.*	Brandenburgh	
Mercer, *m.*	Harrodsburgh	15587
Monroe, *s.*	Tomkinsville	4956
Montgomery, *m. e.*	Mount Sterling	9587
Morgan, *e.*	West Liberty	
Muhlenberg, *w.*	Greenville	4979
Nelson, *m.*	Bairdstown	16273
Nicholas, *n.*	Carlisle	7973
Ohio, *m. w.*	Hartford	3879
Oldham, *n. w.*	Westport	
Owen, *n.*	Owentown	2031
Pendleton, *n.*	Falmouth	3086
Perry, *e.*	Perry, C. H.	
Pike, *e.*	Pike, C. H.	
Pulaski, *s.*	Somerset	7597
Rock Castle, *m. s.*	Mount Vernon	2249
Russell, *s.*	Jamestown	
Scott, *m. n.*	Georgetown	14219
Shelby, *m. n.*	Shelbyville	21047
Simpson, *s.*	Franklin	4852
Spencer, *n.*	Taylorsville	
Todd, *s.*	Elkton	5089
Trigg, *s. w.*	Cadiz	3874

Counties.	*Chief Towns.*	*Pop.* 1820.
Union, *w.*	Morganfield	3470
Warren, *s.*	Bowling Green	11776
Washington, *m.*	Springfield	15987
Wayne, *s.*	Monticello	7951
Whitley, *s. e.*	Whitley C. H.	2340
Woodford, *m.*	Versailles	12207
Total - - - - - - - -		564,317

Of this population, were whites 434,826; free coloured 2759; and slaves 126,732.

Engaged in	Agriculture	132,161
Do	Manufactures	11,779
Do	Commerce	1,617

History.—The first successful attempt, by the whites, to explore Kentucky, was made in 1767, by John Finley from North Carolina. Daniel Boone followed Finley, and, alone most part of the period, explored that region from 1769 to 1771. Boone conducted the first colony to the banks of Kentucky river, in 1775. Like every frontier colony in the now United States, attempted before 1795, the progress of Kentucky was made in tears and blood. Virginia claimed the soil of Kentucky, under her charter, and the country was settled under her authority. In 1777 it was laid out as a county. In 1785 the first step was taken to form an independent territory; Virginia gave consent to such separation whenever a majority of the inhabitants should vote such desire. It was not, however, until in June 1790, that Kentucky became one of the United States. The foundation of Transylvania University in 1798, and its re-organization in 1818, are the most important events in the history of that state since its admission into the Union. That seminary, located at Lexington, is the most extensive literary institution in the United States west of the Appalachian mountains.

LOUISIANA.

Boundaries, extent, and position.—Gulf of Mexico S. and S. E., Texas W., Arkansas N., and state of Mississippi E. and N. E.

	Miles.
Beginning at the mouth of the Sabine, and thence up that river, opposite Texas, to a point where it is intersected by 32° lat.	200
Thence along a meridian line to lat. 33°	69
Thence due east along Arkansas to the right bank of the Mississippi river	172
Down the Mississippi, opposite the state of Mississippi, to N. lat. 31°	235
Thence due east along Mississippi state to the right bank of Pearl river.	105
Down Pearl river to its mouth	60
Thence along the shores of the Gulf of Mexico to the mouth of Sabine	400
Entire outline	1241

The longest line that can be drawn in Louisiana is from the mouth of the Mississippi to the northwest angle on Sabine 380 miles; the irregular form renders a correct estimate of its mean width difficult, but 120 miles is not far from accurate; area 48,220 square miles, equal to 30,860,800 statute acres, or 36,460,000 French arpents. Extreme S. at N. lat. 28° 56′. Extreme N. at N. lat. 33°. Between longitudes 11° 36′ and 17° 16′ W.

Natural Geography.—There is not, perhaps, on earth another continuous tract of equal extent, presenting a greater diversity of soil than does Louisiana. Within its limits are included all the varieties from the most recent, and still periodically submerged alluvion, to hills approaching the magnitude of mountains: every quality of soil, from the most productive to the most sterile; and from unwooded *plains* to perhaps the most dense known forests.

The necessary notice of this peculiar region has been in great part anticipated in the physical part of this View. The rivers, and the annual overflow of the Delta, as well as the general features of the soil, have been discussed. In the chapter on climate it is shewn that the seasons of Louisiana are colder, by a difference of at least two degrees of latitude, than are those of a similar latitude on the Atlantic coast. This has been demonstrated by the relative locality of vegetables, both indigenous and exotic. The orange and sugar cane cease in Louisiana, the former at about latitude 30°, and the latter at about a degree farther north.

Sugar and rice are the staples of the state, generally, below lat. 30°, and cotton above that curve. The latter is, however, cultivated in every section of the country, and sugar, partially, to near the northern boundary, but avidity of gain in some instances has instigated to an infructuous struggle with the laws of nature.

In fruits Louisiana is abundant; amongst those successfully cultivated may be mentioned, the apple in the northern parishes; the peach, very excellent, and the fig, of several species, over the whole state; the orange nearly commensurate with sugar cane; the pomegranate over the state wherever attempted; in a similar manner the vitis vinifera has succeeded. Legumes and garden vegetables, generally, seem to have no assignable limit, specifically, on a soil so varied, and in a climate so near the tropics. It may seem incredible that horticulture should be neglected in Louisiana, but such is the melancholy fact; and a fact the more unaccountable, as some individual gardens would seem irresistibly alluring to imitation.

The entire front of Louisiana, from the Pearl to the Sabine, is a selvidge of marsh, in most part devoid of timber, traversed by the water courses, and rising very slowly towards the interior. The rise of

the Delta, to its utmost extremity at the efflux of the Atchafalaya, does not, it is probable, amount to 5 feet. I have seen the tide, in fact, ebb and flow, in autumn when the rivers were low, in the Atchafalaya above the influx of Courtableau. Another circumstance, to which I have also been a witness, evinces the very small inclination of all Louisiana. When the Mississippi is in flood, and the overflow of the Delta at its height, the Courtableau, Red, and Wachitau rivers are rendered stagnant to a great distance above their contact with the Mississippi water.

I have experienced some painful reflections from anticipating that Louisiana, or at least the Delta, is still liable to destructive inundations. This truth, for I am still confident it is too true, struck me when visiting the various parts of that most peculiar country. If the hurricane of the 18th and 19th of August, 1812, had taken place two months earlier in the year, the whole Delta would have been submerged. Travelling along Connecticut river, and viewing those alluvial plains noticed in this View, page 164, a similar idea struck my mind, that at irregular intervals of time they were liable to destructive floods. How far I was right in the latter case may be seen by the subjoined extract:

Awful Calamity.—We have been favoured with the following extract of a letter from a gentleman in Hartford, to his friend in this city, dated Sunday morning, September 7, 1828.

"You doubtless know something of our freshet, but the half has not been told. It is now nearly at the highest, though still swelling a little. It is a melancholy spectacle. Probably no calamity so general has occurred since the settlement of the country bordering on this valley. It is sickening to behold our rich meadows, only on Monday last literally groaning with the greatest crop ever known,

now covered over, as far as the eye can reach, like a great sea. Not a vestige of land can be seen on the Wethersfield road east. The long East-bridge, next to East-Hartford, on the meadow, was expected to go off. The trussels were raised, and the water is up to the floor. Several live oxen floated by yesterday—one pair yoked. Several are now standing on the highest part of south meadow, their backs just out of water. A red fox and a grey rabbit, probably visiters from Vermont, were caught just east of Morgan's bridge. The timber prepared and laid for the guard lock at Enfield Falls went by two days since;—all the embankment under water, leaving not even a ripple. The water is 24 feet above low water mark. It is superfluous to say that all the crops on the meadows are destroyed, for a hundred or two miles up the country. Farmington canal is injured in several places, we hear, and the culvert partly gone. The same writer states that the losses and damages cannot be estimated less than 500,000 dollars."*

The vicinity of Hartford, Connecticut, has been known to civilized man above two centuries; the Delta of the Mississippi about 130 years.

The climate of Louisiana demands the more particular notice, as it has been very much misunderstood. In recording the mean temperature of places, in table 45, page 379, I have set down that of New Orleans, comparatively, at 69° 01′ Faht., but am convinced that the real mean of that city does not exceed 63°; and, what is of more consequence to vegetation than mean heat, that the extreme of winter cold over lower Louisiana is greatly more in excess than it is even at Charleston, South Carolina. Compare the range of the thermometer at Pensacola, Baton Rouge, and Cantonment Jessup, on Sa-

* Aurora and Pennsylvania Gazette, Sept. 12, 1828.

bine, with that of Charleston, St. Augustine, and Tampa bay, and we find the lowest point to which the thermometer fell at the city of Charleston to be +19°, whilst at Pensacola the mercury had sunk to +11°, at Baton Rouge to +18°, and at Cantonment Jessup to +7°.

If we add together the respective highest and lowest range of the thermometer at Pensacola, Baton Rouge, and Cantonment Jessup, it may be remarked we have so low a mean of the three places combined as 54° 5′. The latter is too low, but it is no doubt much nearer the real mean of central Louisiana than is 68° 35′, the combined mean deduced from the individual mean in table 45. In reality as far as vegetation can decide the question, the seasons may be considered milder at Charleston, South Carolina, lat. 32° 42′, than at New Orleans in lat. 30°.

Political Geography.—The principal city of Louisiana, and in respect to population, in the southern part of the United States, stands on the left bank of the Mississippi 105 miles above its mouth, and at N. lat. 30°, long. 13° 06′ W. The increase of population of this city has been rapid and steady. I was there in April 1805, when the inhabitants were estimated between eight and ten thousand, in 1820 they amounted to 42,900, and now exceed 60,000.

For civil and municipal purposes Louisiana is subdivided into parishes.

Parishes.	*Chief towns.*	*Pop.* 1820.
Ascension, *m. s.*	Donaldsonville	3728
Assumption, *s.*	Assumption	3576
Avoyelles *m.*	Marksville	2245
Catahoola, *n. e.*	Catahoola	2287
Claiborne, *n. w.*		
Concordia, *e. n.*	Concordia	2626
E. Baton Rouge, *m. e.*	Baton Rouge	5220
E. Feliciana, *m. c.*	Jackson	
Iberville, m. s.	Iberville	4414

arishes.	Chief Towns.	Pop. 1820.
on, *s. e.*		
tte, *s.*	Moutonville	
rche Interior, *s.e.*	Thibadeauxville	3735
toches, *n. w.*	Natchitoches	7486
s, *e. s.*	New Orleans	41351
mines, *s. e.*	Plaquemines	2354
Coupee, *m.*	Point Coupee	4912
s, *m.*	Alexandria	6065
nard, *e. s.*		2635
arles, *s. e.*		3862
lena, *e.*	St. Helena	3026
nes, *m. s.*	Bringier's	5686
n Baptiste, *m.*	Dubourg's	3854
ndry, *s. w.*	Opelousas	10085
rtin's, *s.*	St Martinsville	12063
ry's, *s.*	Franklin	
mmany, *e.*	Covington	1723
Bonne, *s.*		
tau, *n.*	Monroe	2609
ngton, *e.*	Franklinton	2517
ton Rouge, *m.*	C. H.	2335
liciana, *m.*	St. Francisville	12732
Total,		153,407

hese, were whites 73,867; free coloured per-
0,476; and slaves 60,064. Thus classified as
ployment: engaged in agriculture, 50,045; in
actures, 5797; in commerce, 6168.
isiana increased nearly 80 per cent from 1810
0, and if the advance continues at the same
the aggregate will exceed 276,000 in 1830.
thus augmented, still the distributive popu-
will fall short of 6 to the square mile. There
leed, large spaces in Louisiana which must
s remain negative in the cultivateable area.
xisting settlements, except the parishes of E.
Rouge W. and E. Feliciana, St. Tammany,
ington, and St. Helena extend in lines along

the streams; or, as in Attacapas and Opelousas, in lines along the margin of the prairies. This state is, in brief, marked by peculiar features in every respect, which give to its natural and artificial features strong contrasts with any other part of the United States.

History.—The first effective settlement of Louisiana was made in 1699, by a small French colony under the command of M. D'Iberville. The city of New Orleans was founded in 1717. In 1763 the whole of Louisiana was ceded to Spain, but from the resistance of the inhabitants, that power did not obtain possession until 1769. Spain retained her authority in this province until 1800, when, by a secret treaty, it was re-ceded to France. The state of internal policy not admitting France to take possession of Louisiana, it was formally ceded by treaty, in April 1803, and in the following December given up to the United States, by the French Colonial Prefect, Col. Laussat.

As ceded, Louisiana contained all that is now comprised in the state so called, Arkansas, Missouri, and the illimitable regions north-westward. In March, 1804, Louisiana was erected into a territory, by the name of Orleans, with the limits stated at the head of this article; the residue, beyond N. lat. 33°, was erected into Missouri territory. In 1811, having acquired adequate population, Congress granted the inhabitants power to form a state constitution. In 1812, the necessary steps having been taken, the state of Louisiana was ranked in the list of independent states of the United States.

MAINE.

Boundaries, extent and position.—Atlantic Ocean S., New Brunswick E., Lower Canada N. and N. *W.*, and New Hampshire S. W.

	Miles.
Beginning on the Atlantic Ocean at the mouth of Passamaquoddy bay, thence S. W. by W. along the Atlantic Ocean to the mouth of Piscataqua river,	235
Up the Piscataqua and Salmon Falls river to the source of the latter,	40
Thence along the eastern boundary of New Hampshire, by a line inclining a little west of north, to the Highlands, between the sources of the Atlantic streams and those of the small confluents of St. Lawrence,	115
Along the Highlands to a point a little above N. lat. 48° and 9° 08′ E.	300
Thence due S. along the western boundary of New Brunswick to the source of St. Croix river,	143
Down St. Croix river and Passamaquoddy bay to the Atlantic Ocean and place of beginning	100
Entire outline,	933

The prefixed map of the northern part of Maine, was expressly projected and engraved, to render apparent the true relative positions in controversy between the governments of the United States and Great Britain, respecting the extension of Maine beyond the sources of the St. Croix river. The map will serve to place the geographical part of the question in a clear light, and deserves the more confidence as it has been constructed from original documents forwarded to Mr. Henry S. Tanner.

With the limits claimed by the United States, Maine will reach from Gerriches Point, the N. E. boundary of Portsmouth harbour, at N. lat. 43° 04′ to the sources of the Mattawaska branch of St. Johns river, N. lat 48, and long. from 5° 56′ to 10° 02′ E.

The greatest length of Maine is, from S. W. to . E. 350; mean breadth 92; and area by the umbs, 32,194 square miles.

Natural Geography.—Extending over 5° of latude and differing in relative level at least 800 feet, Maine presents at its extremes great diversity of climate. The surface of this state differs essentially from any other part of the United States. The coast between Casco bay and Passamaquoddy, is excessively indented by long projecting points and by innumerable islands, between which are discharged the fine streams of Kennebeck and Penobscot, with many others of less volume, affording an unequalled variety of harbours. Upon this very broken coast is poured a tide of from 20 to 40 feet. So excessive is the ocean swell, as to break the winter ice to fragments, and to preserve open the harbors of Maine, whilst those are closed several degrees more southward.

The interior of the state is a congeries of hills of great variety of form, without any mountain ridges of much elevation or mass, with intervening lakes and streams. With Maine, indeed, commences in the north east part of the United States, that lake section of North America, which extends to the utmost known northern regions of the continent Though not very elevated, the interior of Main rises so rapidly from the sea coast, as to preclud the flow of the tide far inland, though few oth states of the United States are more completely tr versed by navigable rivers.

A very dense forest covered Maine in its natu state, and the settlements being yet restricted t comparatively narrow zone along the sea coast, t ber constitutes the most valuable staple of the st Grain is, however, cultivated to advantage, as meadow grasses, flax and orchard trees. By r ence to tables 42 and 45, it will be seen that the *sons of* Maine must be severe, the thermor

having a range of 113 degrees, rising to 94° above and falling to 19° below zero, at Eastport lat. 44° 44′.

Political Geography.—Portland, the principal city and seat of government in Maine, stands on the S. W. side of Casco bay, N. lat. 43° 38′, lon. 6° 44′ E. This city contained in 1810, 7169, and in 1820, 8531 inhabitants. The harbour is excellent, and for reasons already given, seldom seriously incumbered with ice. The counties of Maine are:

Counties.	*Chief Towns.*	*Pop.* 1820.
Cumberland, *s. w.*	PORTLAND	49,339
Hancock, *s.*	Castine	31,071
Kennebeck, *m.*	Augusta	42,632
Lincoln, *s.*	Wiscasset	52,953
Oxford, *w.*	Paris	27,185
Penobscot, *n.*	Bangor	13,931
Somerset, *n. w.*	Norridgewock	21,698
Waldo, *s.*	Belfast	
Washington, *e.*	Machias	12,746
Wiscasset, *s.*	Warren and Topsham	
York, *s.*	York and Alfred	46,284
Total		297,839

Of this aggregate engaged in	Agriculture,	55,031
do.	Manufactures,	7,643
do.	Commerce,	4,297

If the distributive population of Maine is estimated in comparison to the whole state, it would have, in 1820, but little exceeding 9 to the square mile; the really inhabited part, being however, a zone of 230 by 80 miles, or about 18000 square miles, the density of population was upwards of 16 to the square mile. The settlements are slowly progressing inland.

History.—The first effective colonization of Maine was made by the English about 1635. The name was imposed by still earlier but transient settlers from France. The first charter was proprietary, and

granted in 1639 to Sir Ferdinand Gorges. In 1652 it was annexed to Massachusetts, under the title of county of Yorkshire. Maine remained virtually connected with Massachusetts, but the claims of the family of Gorges were urged, until quieted by purchase in 1676, and included in the same charter 1691. From the latter epoch to their final separation in 1820, the history of the two sections was blended. After some former abortive attempts to sever Maine and Massachusetts, leave was given by the latter to the freemen of the former in 1819, to decide the important question by vote. A large majority appearing to desire separation, a constitution was formed and adopted, and on the 3rd of March 1820, Maine assumed her rank as an independent state of the United States.

MARYLAND.

Boundaries, extent and position.—The Atlantic Ocean, Chesapeake bay and part of Virginia S. E., other parts of Virginia S., S. W. and W., Pennsylvania N., and Delaware E.

	Miles.
Beginning on the Atlantic Ocean on Fenwick's Island, thence due W. along Virginia to Ratcliff's Point on Chesapeake bay,	15
Along Pocomoke bay to Watkin's Point,	20
Over Chesapeake bay to the mouth of Potomac river,	20
Up Potomac river to Washington City,	120
Continuing up Potomac river to its extreme source,	200
Thence due N. to the southern boundary of Pennsylvania,	36
Thence due E. along N. lat. 39° 43′, and the south line of Pennsylvania,	200
Thence southward to the semicircle of twelve miles round New Castle,	5
Continuing S. along W. boundary of Delaware	86

	Miles.
Thence due E. along Delaware to the Atlantic Ocean,	36
Along the Atlantic Ocean to the place of beginning,	35
Entire outline,	773

The extreme southern part of Maryland, on the eastern shore of the Chesapeake bay, is usually considered as extending to lat. 38°, and is so laid down in most maps of the state; but by an original mistake in the line between Virginia and Maryland on the eastern shore, it runs about three miles N. of lat. 38. The state of Maryland therefore, lies between N. lat. 38° 03′ and 39° 42′, in lon. 2° E. and 2° 30′ W.

The area of Maryland is generally and greatly overrated. This exaggeration has arisen from its very irregular form, and from including the surface of Chesapeake bay. I have taken some extra trouble to obtain the true area by the rhumbs, and find that the land superficies is within an inconsiderable fraction of 10,000 square miles.

Natural Geography.—All those parts of Maryland, E. from Chesapeake, and W. from that bay to the head of tides, may be considered as recent alluvion. Above tide water, the surface rises, though not very rapidly, into hills, which reach the foot of the mountains. The third or mountainous section constitutes the western part of the state. In respect to the soil, much that is highly productive exists in each zone, but in general, the intermediate vallies of the mountainous part, contain the most productive. The limestone tracts of Frederick and Washington, exhibit a fertility not surpassed in the United States. The hilly or middle zone is very varied in respect to soil; in a very limited extent is frequently found the extremes of sterility and fertility. The sea sand and river alluvial section, though not affording any surface equally productive with the calcareous parts of the western, is more

uniform than the middle zone. The surface of the alluvial region, though not rising into hills of any considerable elevation, is far from being a dead plain.

In a state of nature, Maryland was with little exception covered with a dense forest, composed of a great variety of timber, the principal genera, oak, hickory, pine and the liriodendron tulipifera. The diversity of soil, and of relative elevation, superinduces in Maryland a very extended facility of vegetable production, from whence the staples have been greatly multiplied. The positive and relative climate may be seen by reference to tables 49, 50, 51 and 52, pages 387 to 391. From these elements, it is demonstrated, that cotton may be cultivated. From the ascents and descents stated in table 4, page 70, the height of the western vallies of the state is shewn to exceed 800 feet, an elevation equivalent to two degrees of latitude. The whole cultivateable surface of Frederick, Washington and Alleghany counties, may be regarded as lying more than 500 feet above the ocean tides; consequently, Maryland in respect to temperature extends through 2° 40′ of latitude.

The Appalachian system of mountains forms the western part of Maryland, and gives source to its most considerable river, the Potomac. The ridges or chains in traversing the state, rise into a barrier in no place less than 2486 feet, and in many places exceeding 3000 feet. This mountain mass, when compared with others even in the United States, is humble, but when viewed as opposed to the formation of canals or of roads, it swells into an object of stupendous magnitude, and particularly rises as a most formidable impediment to canal construction. An elevation of 2486 feet is more than equivalent to 6 degrees of latitude, and in winter gives to the mountain ridges of Maryland, a temperature similar to that on the Atlantic Ocean in lat. 45°.

Political Geography.—Annapolis the seat of government for Maryland, is situated on Severn river, a small confluent of Chesapeake bay, at N. lat. 39° 03′, long. 0° 33′ E. and 25 miles a little E. of south from Baltimore.

Though never the seat of legislation, Baltimore is the real capital of Maryland, and the third city in the United States in point of population and of commercial importance. Baltimore stands on a small bay at the mouth of Falls creek into Patapsco. About a mile below the city, the latter opens into a bay of from one to three miles wide, which extending to the S. E. 12 miles, is merged in the larger bay of Chesapeake. The harbour is a small but convenient basin, admitting vessels of 18 feet draught.

The city sweeps round the head of the bay, on both sides of Falls creek, stretching from east to west full three miles. The advance of this city has been commensurate with the advantages of its position. In 1790 it contained 13,503, in 1800, 26,514, in 1810, 35,583, and in 1820, 62,738 inhabitants. Thus in 30 years, the population augmented upwards of four fold. The existing numbers (Sept. 1828) no doubt exceed 80,000.

The other towns of the state worthy particular notice are, Easton on the eastern shore in Talbot county, Fredericktown in Frederick county, Hagerstown in Washington county, and Cumberland in Alleghany county

The great Baltimore and Ohio rail road, now in progress in Maryland, was in its original conception and prompt undertaking, a bold, and if successful, a most useful enterprise. It is intended to extend from Baltimore in a general westerly direction to the Ohio river, at some point below the mouth of Muskingum. It has been objected to this, as well other similar designs on a large or extended scale, that they were impracticable over great distances, but

it would seem if we regard the intermediate ground in this case, that the practicability would be more rationally apparent on the side of a permanent road than a canal. The length of the rail road will be between 330 and 380 miles, according to the point at which it will intersect Ohio river.

There is already a tolerably good line of turnpike road from Baltimore, intersecting or rather meeting the United States road at Cumberland.

For municipal and civil purposes, Maryland is subdivided into the counties of: *

Counties.	*Chief Towns.*	*Pop.* 1820.
Alleghany, *w.*	Cumberland	86
Ann Arundel, *m. w.*	Annapolis	27165
Baltimore, *n.*	BALTIMORE	96201
Calvert, *s. w.*	Prince Frederick	8072
Caroline, E. *e.*	Denton	10041
Charles, *s. w.*	Port Tobacco	16048
Cecil, E. *n. e.*	Elkton	16500
Dorchester, E. *s. e.*	Cambridge	17755
Frederick, *n. w.*	Frederick (city)	40459
Hartford, *n.*	Bellair	15924
Kent, E. *e.*	Chestertown	11453
Montgomery, *s. w.*	Rockville	16400
Prince Georges, *s. w.*	Upper Marlboro	20216
Queen Anne, E. *e.*	Centreville	14952
St. Mary's, *s. w.*	Leonardstown	12974
Somerset, E. *s. e.*	Princess Anne	19579
Talbot, E. *m.*	Easton	14389
Washington, *n. w.*	Hagerstown	23075
Worcester, E. *s. e.*	Snow Hill	17421
Total		407,350

Of the aggregate in 1820 there were whites, 260,222; free people of colour 39,730; and slaves 107,398.

* Those to which E. is annexed are on the Eastern shore.

Engaged in	Agriculture,	79,135
Do.	Manufactures,	18,640
Do.	Commerce,	4,771

Progressive Population.

1790	319,728	1810	380,546
1800	349,692	1820	407,350

Maryland abounds, in the mountainous sections, with iron ore and bituminous coal. The latter exists in immense strata near the United States road, a few miles west from Cumberland, and is of excellent quality. One great object of the Baltimore railway, is to produce an easy mode of conveying this invaluable fossil to the Atlantic coast. The western counties also contain limestone in immense formations or masses, one of which crosses the eastern side of Alleghany county, and is the extension of the great limestone range of the Kittatinny valley in Pennsylvania. The completion of the rail-road will tend to develope those inexhaustible fossil resources.

History.—Maryland was intended as a refuge to the persecuted Roman Catholics, under a charter or grant to George Calvert Lord Baltimore, who died before the deed was consummated and left his claims to his son Cecilius Lord Baltimore, to whom the patent was granted, June 29th, 1632. The vagueness of both proprietary patents, involved the two colonial proprietary families of Calvert and Penn, in a long and intricate dispute respecting the boundaries of Maryland and Pennsylvania, disputes which arose upwards of 50 years after the actual settlement of Maryland, and were not finally adjusted until after the middle of the 18th century.

In 1699 the seat of government was fixed at Annapolis, where it has ever since remained. This colony early and zealously joined and supported an opposition to the arbitrary proceedings of the British government. The constitution of this state was adopted August 14th, 1776, and dates next in order after Virginia.

MASSACHUSETTS.

Position, Boundaries, and Extent.—The Atlantic ocean N. E., E. and S. E., Rhode Island and Connecticut south, New York west, and Vermont and New Hampshire north.

	Miles.
Beginning on the Atlantic ocean three miles N. of the mouth of the Merrimac river, and thence following the inflexions of the coast to within three miles N. E. from Seconnet Point,	270
Thence along the eastern border of Rhode Island,	45
Thence W. along the northern boundary of Rhode Island,	24
Continuing W. along northern boundary of Connecticut,	83
Do W. to the S. W. angle of the state,	2
Thence N. N. E. along part of the eastern boundary of New York, to the southern boundary of Vermont,	50
Due E. along southern boundary of Vermont, to Connecticut river, and S. W. angle of New-Hampshire,	38
Thence along southern boundary of New Hampshire to the place of beginning,	85
Entire outline	597

The general length of Massachusetts, is not easily determined, but from Plymouth harbour on N. lat. 42° to the S. W. angle is about 145 miles; area 7335 square miles; of course the mean width is about 50 miles. Lying between lat. 41° 31′, and 42° 52′ N., and long. 3° 25′ and 6° 57′ E.

Natural Geography.—Massachusetts presents three distinct zones. The first towards the Atlantic ocean is a sea-sand alluvion, but little elevated above the ocean. The eastern plain is quickly and abruptly followed by a fine hilly tract, which crosses the state from north to south, and from which the rivers are poured in every direction. The second

or middle zone includes part of the beautiful valley of Connecticut, and is followed by the mountainous but highly fertile county of Berkshire, which comprises the whole western part of the state.

The eastern sandy border is the least fertile, but also the least extensive of the three sections. Within the sandy tract the country rises by so abrupt acclivity as to prevent the tides penetrating in any place but a few miles. It has been already noticed that the peninsula of Cape Cod, which forms the eastern part of this state, was the great dividing limit of the Atlantic tides, and that a very rapid increase of depth was found within the bay of Massachusetts.

Taken in one sweep of vision, the whole surface of this state, swells from the Atlantic counties to central hills, then depresses into the richly decorated valley of Connecticut, and again rises into the mountain vallies of Berkshire. The soil is as varied as the surface, presenting every quality from sterile sea sand, to river alluvion and calcareous debris, giving a very extended latitude to agricultural products. Westward from the first range of hills, the valleys possess a fine, deep, and strong soil; a soil improved by cultivation, to an extent equalled in few other sections of the United States.

The mineral productions of this state are numerous specifically, but iron is the only ore found in large quantities. Marble of beautiful variety and texture, is found in Berkshire. Granite of excellent quality as a building stone, is quarried at Teignmouth and Chelmsford, and brought to the sea coast by the Middlesex canal.

Massachusetts possesses eminent advantages as a commercial state. South-east from the Isthmus of Barnstable the tides are moderate, but within the Bay of Massachusetts, the harbours are numerous, deep, and spacious. Connecticut river traverses the central part of the state, from north to south, and

the Merrimac enters the ocean at its north-east angle. Both rivers have been made navigable far beyond the limits of Massachusetts, and the Merrimac connected with Boston harbour, by the Middlesex canal. In the article Canals under the head of the United States, it will be seen, that a canal is in progress to open the central county of Worcester to Narragansett bay by Blackstone river.

The climate of Massachusetts, from relative height, varies from east to west. The extremes differing only 1° 21′ in latitude, produces but a slight change of temperature, but the cultivated parts of the county of Berkshire rising to a height from 500 to 1000 feet, produces a marked difference of seasons, from those of the Hudson and Connecticut rivers on equal latitudes. I have seen the spring opening at Albany whilst snow covered the vales of Berkshire.

Political Geography.—Boston, the capital and principal city of Massachusetts, stands on a hilly peninsula, rising between the open bay and Charles river, at N. lat. 42° 22′, and long. 5° 58′ E. This fine city was founded in 1629. In 1800, it contained 24,937, in 1810, 32,250, and in 1820, 42,526 inhabitants. The advance gives an annual increase of 586, and if continued, yields, at the present time, a population of about 47,000.

The harbour of Boston is excellent, admitting vessels of any desirable draught of water; very seldom inaccessible from ice; and so narrow at the entrance as to be easily and effectually defended.

The city is completely united to the adjacent places by numerous bridges, and with the interior of New Hampshire by the Merrimac canal. Good roads extend to the other principal towns and villages of the state, Salem, Newburyport, Plymouth, Worcester, Northampton, Lenox, &c.

Massachusetts is subdivided into the following counties:

Counties.	*Chief Towns.*	*Pop.* 1820.
ıtable, *s. e.*	Barnstable	24,029
ıhire, *w.*	Lenox	35,727
ɔl, *s.*	Taunton	39,998
s, *s.*	Edgartown	3,295
; *n. e.*	Salem	74,580
ılin, *n.*	Greenfield	29,289
len, *s.*	Springfield	35,727
ɔshire, *m. w.*	Northampton	28,073
esex, *n.*	Cambridge	61,677
ıcket, *s.*	Nantucket	7,286
lk, *m. e.*	Dedham	36,462
outh, *e.*	Plymouth	38,112
lk, *e.*	Boston	43,925
ester, *m.*	Worcester	73,605
Total		521,725
s aggregate, engaged in	Agriculture	63,460
Do	Manufactures	33,464
Do	Commerce	13,301

Progressive population.

1790	378,787
1800	422,845
1810	472,040
1820	521,725

ıtory.—The first actual colonization of Massa-
ıtts, was made at Plymouth in 1620, but the
ıharter was granted by James I. to a company
rly as 1606, under the name of North Virginia.
Plymouth Company, however, commenced
settlement under a written constitution; sup-
l to be the first instance on record, of a go-
nent being formed from original elements by
consent of the governed, and reduced to the
anency of a written compact. The first regu-
ɔuse of representatives was organized in 1639.
achusetts was formed by the oppressions, and

for the first 70 years of its existence, struggled against the arbitrary measures of the Stewart dynasty. In 1635, Charles I. interfered directly in the colonial government; and in 1638, a *quo warranto* was issued against the province. The revolution in 1642, gave a momentary respite, but with the restoration, 1660, the arbitrary folly of the Stewarts was again felt in America, and felt until 1688, when another revolution drove the oppressors from their abused power. In 1691, William and Mary granted a new charter, including Maine. From the latter period to that of the revolution in 1775, the colonial history of Massachusetts, though marked with many events of great local interest, yet affords few events worthy notice in a brief view. It may be truly said that this interesting colony was always a republic, and when the eventful day arrived, to meet the vengeance of the parent state, Massachusetts stood the first and severest shock from an irritated foe, and through the whole contest sustained the character with which it entered the list of opposition.

The government remained under the charter until March 2nd, 1780, when a constitution was adopted, which was amended for the last time in November, 1820; Maine had become a separate and independent state in the previous March. See Maine.

MICHIGAN.

Position, Boundaries, and Extent.—The peninsula of Michigan is bounded W. and N. W. by Lake Michigan, N. by the Straits of Michilimakinak, N. E. by Lake Huron, E. by St. Clair river, Lake St. Clair, Detroit river, and Lake Erie, S. E. by the state of Ohio, and S. W. by Indiana.

Beginning on Lake Michigan, where that lake is intersected by the northern boundary of Indiana,

	Miles.
thence along Michigan and Straits of Michilimakinak into Lake Huron,	260
On Lake Huron,	250
River St. Clair, Lake St. Clair, Detroit river, and Lake Erie, to the northern boundary of Ohio,	136
Along the north boundary of Ohio to the east boundary of Indiana,	80
Due N. along east boundary of Indiana,	10
Thence due W. along north boundary of Indiana to Lake Michigan and point of outset	110
Having an outline of	846

Extending from N. lat. 41° 35′, to N. lat. 45° 20′, and in long. from 5° 20′ to 9° 53′ W.; area 34,000 square miles.

The preceding is that tongue of land which stretches northward from Indiana and Ohio, and is particularly designated the Territory of Michigan; but for temporary purposes, the United States government has connected with the peninsula an immense region, improperly called the N. W. Territory, towards the sources of the Mississippi, and embraced within the following boundaries.

	Miles.
The Trans-Michigan part of the territory has an interior limit on the state of Illinois, along N. lat. 42° 30′,	210
Up the Mississippi to its source, and thence to the head of Red river branch of Assiniboin,	700
Down Red river to N. lat. 49°,	300
Along N. lat. 49° to the river Rain,	150
Up Rain river to its source,	150
Down Fox river to Lake Superior,	100
Along the N. W., W., and S. shores of Lake Superior, and St. Mary's river, to the Straits of Michilimakinak,	650
Along Green Bay and Lake Michigan,	350
Having an outline of	2610

This very extensive tract stretches from N. lat. 42° 30′ to 49°, and in long. from 9° to 22° W.

Area, 140,000 square miles, equal to 89,600,000 acres, to which if we add the peninsular part we have 174,000 square miles, or 111,360,000 acres.

From the N. E. angle of the state of Illinois to the N. W. angle of Trans-Michigan, the territory is 650 miles long. The breadth is very irregular, but averages about 200 miles.

Natural Geography.—The peninsular part is the only section on which any considerable settlements have been made, and is therefore the only part very correctly delineated. The outer margin on the lakes and rivers is one continued declining selvedge. This gently rising border is followed in the interior by an extended plain; the whole resting on secondary strata. From the flat, and in many places marshy interior, the numerous rivers ooze, gaining current in their advance towards their recipients, and are generally precipitated over falls before reaching their point of discharge. The Michigan cataracts are humble as to their elevation, and are occasioned by the outer projection of the underlaying strata.

In a state of nature, the peninsula of Michigan was covered, with partial exceptions, by a very heavy forest. The soil is deep and strong. The climate superinduces, when combined with the proximity to the extensive lakes of Huron, Michigan and Eric, the excessive growth of grasses, and of course the production of grain.

The actual elevation of the interior part above the lakes, has never been accurately determined, but may be assumed at from 100 to 300 at most, therefore but trifling change of temperature can arise from relative level. The winters are, however, long and severe. By reference to the tables under the head of climate, it will be seen that the extreme range of the thermometer at Fort Brady and Green Bay, evinces excessive vicissitudes of temperature.

That uniformity of surface, so remarkable on the peninsula, is in great part continued in the much more wide-spread Trans-Michigan region. Hills of some elevation do arise between the Mississippi river and lakes Michigan and Erie, but the general surface is level, and towards the sources of Mississippi and Red rivers, a dead and partially inundated flat presents itself.

The climate is here in a peculiar manner severe. This excessive cold is produced by a combination of causes. The surface of that part of the continent, from which the Mississippi draws its sources, is elevated above the Atlantic tides at least 1300 feet, or equivalent to four degrees of latitude; of course the north west part of Trans-Michigan, is exposed to a temperature equal to that of lat. 53° on the ocean. Again, this elevated region is exposed, utterly unsheltered, to the prevailing winds from that interminable table land stretching into the unknown regions of frost. To every other cause of an excess of winter cold on the plains of north-western Michigan, may be added the want of timber in many places of great extent.

The local features are yet so imperfectly explored as to preclude minute description, and except the highly picturesque shores of Lake Superior, a dull monotony prevails over what has been examined.

Political Geography.—Detroit, the capital of Michigan, stands on the right or western bank of Detroit river, 18 miles above its entrance into Lake Erie, at N. lat. 42° 25′, lon. 5° 50′ W. This city is yet small, population about 3000, but is the only town of any note yet built in North America, north-west from Buffalo. With a few villages in Canada, this vicinity is the centre of the out-post of civilization.

Settlements are extending, and military establishments have long existed at Green Bay, Michilimakinak, and Sault St. Mary. The latter was the last in

chronological order, and was formed by Col. Brady July 17th, 1822, and is the most advanced post of the United States to the N. W.

(The following list of Counties, N. W. Ter., is annexed to those of the north-west or Trans-Michigan Territory.)

Counties.	*Chief towns.*	*Pop.* 1820.
Brown, (N. W. Ter.)	Green Bay	952
Chippewa, (N.W.Ter.)	Sault de St. Marie	
Crawford, (N.W.Ter.)	Prairie de Chiens	492
Lapeer, *m. e.*		
Lenervie, *s. e.*	Tecumseh	
Macomb, *e.*	Mount Clemens	898
Michilimakinak	Mackinac	819
Monroe, *s. e.*	Monroe	1831
Oakland, *e.*	Pontiac	330
Saginaw, *m.*		
St. Clair, *e.*	St. Clair	
Sanilac, *e.*		
Shiawassee, *m.*		
Washtenaw, *s. e.*	Ann Arbour	
Wayne, *e. s.*	DETROIT	3574
Total		8896

Thus we are taught the appalling fact that in 1820, on 140,000 square miles, there existed only one civilized human being on 16 square miles. What a void on a space on which a distributive population of 10 to the square mile would yield an aggregate of 1,400,000 inhabitants! This is one of the many facts to show that the continent of North America is only commencing to be peopled.

History.—Detroit was founded about 1670, by the French, but remained a mere trading post, and in 1763, was ceded with other parts of Canada to the British government. It was included in the limits of the United States by the treaty of 1783, but not actually given up by the British until 1796. The terri-

tory of Michigan was formed in 1805. The city of Detroit and the adjacent territory was taken by a British army, August 1812, but retaken the ensuing year by the United States troops under Gen. Harrison; since which epoch the settlements have slowly and securely progressed. The population it is probable has more than doubled since the last census.

MISSISSIPPI.

Position, boundaries, and extent.—Tennessee N., Alabama E., Gulf of Mexico S. E., State of Louisiana S. W., and Mississippi river W.

	Miles.
Beginning at the mouth of Pearl river, and thence up that stream to N. lat. 31°	60
Thence due W. along Louisiana, to the left bank of Mississippi river,	105
Up Mississippi river, to the S. W. corner of the state of Tennessee,	530
Thence due E. along N. lat. 35°, and the southern boundary of Tennessee,	90
Thence southwardly along the western boundary of Alabama to the Gulf of Mexico,	320
Along the shores of the Gulf of Mexico to the mouth of Pearl river,	80
Having an entire outline of	1185

Extending from N. lat. 30° 08′, to N. lat. 35°, and in long. from 11° 05′ to 14° 26′ W.

Length from north to south, 338 miles. The area of this state has never been very accurately determined. Measured by the rhumbs on Tanner's map, it comprises a small fraction above 51,000 square miles, with a mean width of 150 miles; equal to 32,640,000 acres.

Natural Geography.—So much has already been said of the rivers of the United States, that a brief notice of them is only necessary under the respective

heads of the individual states. The state of Mississippi is washed on its western border by the Mississippi; the Tennessee river touches the N. E. angle, and the sources of Tombeckbee, Pascagoula, Pearl, Amite, Homochitto, and Yazoo, drain the interior sections.

Rejecting the islands of the Gulf of Mexico, as too inconsiderable for notice, the soil of Mississippi is divisible into three very distinct portions. First, the alluvial borders of the rivers; second, the bluffs adjacent to the Mississippi overflow; and third, pine forest land. The flat margin of the Mississippi on the left or east bank, though equally fertile, is less valuable than similar soil on the opposing side. This difference is produced by the bluffs, or hills of the state of Mississippi, confining the surplus water, and consequently subjecting the river border lands to more frequent and more durable inundation, than takes place on the west side where the waters are freely drained into the remote swamps and outlets.

Rising from the Mississippi alluvion, the bluffs are followed by a very waving, but a most productive country. This band or zone, commences in Louisiana, as low down as Iberville, and with the mere interruptions of the streams stretches into Tennessee, with a greater or less width from 10 to 30 or 40 miles. It may be doubted, whether, every thing considered, the bluff zone of Mississippi is exceeded in intrinsic value by any other tract in the United States. In its natural state, and so in great part it still continues, this region was covered with a heavy forest, of which generically oak, hickory, laurel, magnolia, sweet gum, ash, maple, liriodendron tulipifera, and pine, were most prevalent, with a great variety of vines and underwood.

In the primitive settlements near Natchez, tobacco, indigo, and cotton, have been successively staples, and all produced luxuriantly. The latter vegetable has prevailed within the last 30 years.

Small grain could no doubt be plentifully cultivated, but the only species of cerealia much attended to is Indian corn. Meadows and orchards are neglected, although the climate and soil invite the fostering of both those pursuits of agriculture. The peach and fig are, however, abundant. Gardens are when duly managed extremely productive; but horticulture, like meadows and orchards, is neglected.

Much of excellent land exists along the streams over the whole state, and when brought under cultivation, productive in similar vegetables with the bluff lands I have noticed.

The pine forest, and other interval land, of various but inferior quality, constitute much the greater part of the surface of the state, and will preclude a dense population except in detached places, unless objects of culture can be introduced suitable to the now useless soils. Will not the vitis vinifera supply this desideratum?

The metallic productions of this state deserve no particular notice.

What has been said in respect to climate under the head of Alabama, may be repeated with regard to the state of Mississippi, except, that being more exposed to the winds of the N. W. the temperature of the latter is lower than that of the former in winter. Neither sugar cane nor the orange can be cultivated above lat. 31°, nor even below that curve to any advantage in the state of Mississippi. The winters are very unequal in point of temperature, and often severe in the vicinity of Natchez. Snow, more or less, occurs annually, and the thermometer has shown a depression of the mercury to 12° above zero.

Political Geography.—Natchez is not the seat of government, but is by far the most important town of the state. It is situated on a series of hills, about half a mile from the bank of the Mississippi, N. lat. 31° 33′, and long. 14° 30′ W. The site of the town

is waving, and though so near is not visible from the Mississippi, above which it is elevated about 100 feet, with a steep intervening bluff. Population, 1810, was 1511, and in 1820 had risen to 2184. There is certainly no other town in the United States the real importance of which so greatly exceeds the extent of its buildings or number of inhabitants. In common years from 30 to 40 thousand bales of cotton are exported from this city, and the commercial business carried on is on an equally large scale.

Washington, six miles E. from Natchez, is a pleasant, but inconsiderable place; and a similar remark as to size applies to every other village of the state, including Jackson, the seat of government.

The most improved and best populated section of this state is the S. W. angle. It was here that the original colonization was made, and where exists the most extensive continuous body of productive soil. Settlements are extending into the south-eastern and central parts; the northern remains in possession of the Choctaw and Chickasaw Indians.

Counties.	*Chief towns.*	*Pop.* 1820.
Adams, *w. s.*	Natchez	12,073
Amite, *s. w.*	Liberty	6853
Claiborne, *w.*	Port Gibson	5963
Copiah, *m. e.*	Gallatin	
Covington, *m. s.*	Williamsburg	2230
Franklin, *s. w.*	Meadville	3821
Greene, *e. s.*	Greene C. H.	1445
Hancock, *s.*	Shieldsboro	1594
Hinds, *w.*	JACKSON	
Jackson, *s. e.*	Jackson C. H.	1682
Jefferson, *w. s.*	Fayette	6822
Jones, *m. s.*	Ellisville	
Lawrence, *m. s.*	Monticello	4916
Madison, *e.*	Madisonville	
Marion, *s.*	Columbia	3116
Monroe, *e. n.*	Hamilton	2721
Perry, *s. e.*	Augusta	2037

Counties.	*Chief towns.*	*Pop.* 1820.
Pike, *s.*	Holmesville	4438
Rankin, *w.*	Yazoo	
Simpson, *m. s.*	Westville	
Warren, *w.*	Vicksburgh	2693
Washington, *m. s.*	New Mexico	
Wayne, *e.*	Winchester	3323
Wilkinson, *s. w.*	Woodville	9718
Yazoo, *w.*	Benton	
Total,		75,448

Of these, engaged in	Agriculture	22,033
do.	Manufactures	650
do.	Commerce	294

History.—The first actual settlement of whites was made by the French at Natchez about 1716 or 1718. This colony, amounting to about 500 persons, was massacred by the Indians in 1729. White establishments were partially renewed, but the country remained in great part a wilderness until after 1763, when the whole of Florida was ceded to the British. The country as high as the Yazoo river was, soon after, surveyed, and very respectable settlements formed along the fine bluff region above and below Natchez. As far as lat. 31° was included in the limits of the United States by the treaty of 1783, but being overrun by the Spaniards in the revolutionary war, it remained in their possession until 1798. In 1800, all that is now comprised in Mississippi and Alabama, was formed into a territory by the name of Mississippi territory. March 1st, 1817, the western part was authorised by act of Congress, to form a constitution, which was done in convention, the ensuing July, and in December, 1817, Mississippi became a state of the United States.

MISSOURI.

Position, boundaries, and extent.—Bounded N. E. and S. E. by the Mississippi river, S. by the territory of Arkansas, and W. and N. by the Western unappropriated territory of the United States.

	Miles.
Beginning on the Mississippi, at the mouth of Lemoine river, and thence down the former to N. lat. 36°	550
Thence due W. to the right bank of St. Francis river	50
Down St. Francis to N. lat. 36° 30′	50
Thence due W. along the northern boundary of Arkansas to a point where a meridian line from the junction of Missouri and Kansas rivers intersects N. lat. 36° 30′	200
Thence due N. to a point where a line extended due W. from the Sac village, on Lemoine river, will intersect the western boundary	273
Thence due E. to the Lemoine river	130
Down Lemoine river to the place of outset	20
Having an entire outline of	1273

Mean length from N. to S. 280 miles, area rather exceeding 63,000 square miles; but adopting that superficies, the mean width, E. and W., will be 225 miles; the whole containing 40,320,000 acres. Extending from N. lat. 36° to 40° 36′, and in long. from 11° 47′ to 17° 32′ W.

Natural Geography.—Though, with the exception of the alluvial bottoms of the rivers, Missouri is rolling or hilly, yet no part rises to an elevation de serving the name of mountains. A chain of hill commences south-east from the mouth of Osag river, and stretching south-west is the incipient b ginning of the Ozark or Masserne chain, but r mains humble until far within Arkansas. No oth state of the United States is, however, so grea diversified in respect to soil and external featur The prairie region, commencing in Ohio and I ana, spreading into immense plains in Illinois, bands still more in western Missouri.

To a civilized and commercial people, rivers are, of all objects in nature, the most important. In most places the far greater part of the most fertile and most easily cultivated soil is on the banks of rivers; where also rise the most extensive and wealthy cities. In regard to rivers there is perhaps no other equal section of the earth to compare with Missouri. The Mississippi sweeps its mighty volume along the eastern border 550 miles, receiving, near mid-distant, the still more majestic Missouri. The latter entering the western boundary traverses the state, receiving from each side tributaries which, if not contrasted with the overwhelming mass into which they are poured and lost, would deserve the title of fine rivers. The Osage, rising in the angle between Arkansas and Kansas rivers, on the vast plains west from the state of Missouri, carries its very serpentine but navigable volume into Missouri river near the centre of the state.

Illinois and Ohio, though not within, are in a commercial point of view rivers of Missouri. The White and St. Francis rise in this state, and flowing southward connect it with Arkansas.

The soil is as varied as is the surface; every quality is found from the most productive and exhaustless alluvion to sterile clay or silicious sand. On the eastern border, and near the streams generally, a dense forest covered Missouri; but even here, in some places, naked prairie encroaches upon the streams. I may here apprize the reader that there is a strong pre-disposition in the mind to exaggerate the comparative extent of prairie over woodland. Entering on a prairie where the view is in one or more directions limited only by the horizon, an idea of vastness is involuntary. I have seen in public documents, respecting Louisiana, the prairie estimated at two-thirds of the whole surface; whilst, in fact, much more than nine-tenths of the surface is at this moment under a dense untouched forest.

It is from a knowledge of this natural propensity, that I am incredulous when I either read or hear comparisons made between the extent of prairie and forest. It is from this natural cause that the breadth of rivers, distances at sea, and the comparative quantity of cleared land in a cultivated country, are almost invariably over-rated.

Missouri is divisible into three sections in regard to soil. In general terms the south-east section is alluvial, and liable to partial annual inundation; the south-western is mixed prairie and "Flint Hill" land. The northern section, west from the Mississippi, and north from the Missouri, says Mr. Flint, "is no where mountainous. It contains great tracts of alluvial and hilly prairies. It is for the most part a surface delightfully rolling and variegated. There is no part of the globe where greater extents of country can be traversed more easily, and in any direction, by carriages of any description, where there are no roads, and that is yet in a state of nature."*

These three portions have each their appropriate features, but each are interspersed with minor tracts partaking of the general character of the others. According to Mr. Flint there is a specific difference between the alluvion of the two great rivers Mississippi and Missouri; the bottoms of Missouri being more loamy and sandy, and those of its rival more clayey, and yet more substantial. The whole state will, indeed, with no very great exceptions, support a dense population. The geographical extent of the state, and the very great diversity of soil, will admit a correspondent variety of vegetable production. Wheat and Indian corn have been from the original settlement the staples, though in the S. E. section cotton is produced.

Agriculture in all its forms, either as an art or a science, is in its infancy in Missouri, as it may be considered in any newly settled country where nature has done too much. If we return, however, to

* Flint's Western States, Vol. ii. p. 64.

that very essential element the climate, we shall find that Missouri rises above the region of cotton. Enough has been given in this View to decide the severity and length of winter in Missouri. Three winters in five the Mississippi becomes passable on the ice at St. Louis. In 1818, it was so for upwards of two months. It is in this state that the frigid winds of the N. W. are first experienced in all their force receding from the Atlantic. The climate is in brief, cold and windy, as well as dry and bracing. The successive years also vary exceedingly, and uncertain as are the revolutions in meteorology elsewhere, they are proverbially variant in the state of Missouri and adjacent regions.

The indigenous forest trees of Missouri are specifically the same found in the middle region of the Mississippi basin generally, but with perhaps greater variety on a given spot, and the Juglans peccan, and some other trees rarely found east of the Mississippi river.

This state has become in an especial manner noted for immense deposits of lead ore, chiefly of the species called Galena. The principal lead region is in Washington county and parts adjacent, extending about 30 by 15 miles. The central part about 70 miles S. W. from St. Louis. Detached bodies of ore are found from White to Missouri river. The ore is found merely imbedded in masses, and evidently a deposit. None has yet been found *in situ*, though some of the diggings have reached to 80 feet.

Coal in immense strata also exists in Missouri, and at some future period must greatly exceed in value the lead mines. In a country of intense winter and and scarcity of wood, coal mines must be a resource of most primary importance.

Iron ore forms no inconsiderable part of the entire mass of many of the hills of Missouri, but as this invaluable mineral is found almost every where, its

existence here, though highly advantageous, gives but little local preference.

With all its resources combined, Missouri is a truly desirable section of the United States, and what may at the first glance create astonishment in many minds, it will be the most central state of the Union, when the entire basin of Mississippi is peopled, and subdivided into organized states.

Political Geography.—St. Louis has ceased to be the seat of legislation, but continues the real commercial capital of the state. This city stands on an alluvial deposit, rising by a gentle acclivity from the water, the whole resting on a mass of secondary limestone, which, forming at this place the bank of the Mississippi, seems to underlay that stream. The buildings extend from the margin of the river to the brow of the bank, beyond which the country extends in level and mostly open prairie. The main streets are nearly parallel to the river and one stretches about a mile in length. This city dates back to 1764, but previous to its becoming a town of the United States its progress was very slow. In 1803, when it passed under the authority of the United States, the population fell short of 1000; in 1816 the inhabitants amounted to 2000; in 1820 they had increased to 4598, and at this epoch, 1828, cannot fall much, if any, short of 10,000. It is with every limitation, next to New Orleans, the largest city on the margin of the Mississippi. Lat. 38° 46′ N., long. 12° 58′ W.

After St. Louis, the principal towns of Missouri are St. Genevieve with about 1500 inhabitants, Jackson with 500, Herculaneum 500, St. Charles 1200, Franklin 1200, and Jefferson on the south side of Missouri about 20 miles above the influx of Osage, and now the seat of government of the state.

Counties.	*Chief towns.*	*Pop.* 1820.
Boone, m.	Columbia	5963
Callaway, m.	Fulton	

Counties.	*Chief Towns.*	*Pop.* 1820.
Cape Girardeau, *e. s.*	Jackson	
Chariton, *n.*	Chariton	
Clay, *n. w.*	Liberty	
Cole, *m.*	Marion	
Cooper, *m. w.*	Boonsville	6959
Franklin, *m. e.*	Union	2379
Gasconade, *m.*		
Howard, *m. w.*	Fayette	13426
Jefferson, *e.*	Herculaneum	1835
Jackson, *m. s.*	Independence	
Lafayette, *w.*	Lexington Hill	
Lincoln, *e.*	Alexandria	1662
Madison, *s. e.*	Fredericktown	2047
Marion, *e. n.*	Palmyra	
Montgomery, *m. e.*	Lewistown	4075
New Madrid, *s. e.*	New Madrid	2296
Perry, *e. s.*	Perryville	
Pike, *e. n.*	Bowling Green	3747
Ralls, *n. e.*	New London	
Ray, *n. w.*	Richmond	
Saint Charles, *e.*	St. Charles	3970
Saint Francis, *e.*	Farmington	
St. Genevieve, *e.*	St. Genevieve	4962
St. Louis, *e.*	St. Louis	10049
Saline, *m. w.*	Walnut Farm	
Scott, *s. e.*	Benton	
Washington, *e.*	Potosi	2769
Wayne, *s.*	Greenville	1443
Total		66,586

Of these, were whites 55,988; free persons of colour 376; and slaves 10,222.

Engaged in	Agriculture	13,559
Do	Manufactures	1,887
Do	Commerce	480

History.—Though discovered by the French about 1674, the first civilized settlements were not made in Missouri until after the treaty of Paris,

1763. The first establishments were formed at Genevieve, under a mining company, "Pierre La Clade, Maxan, & Co." St. Louis was founded 1764, and St. Charles, on Missouri, in 1780, but previous to the cession to the United States the Missouri settlements languished. In 1803 the salutary revolution was effected, and in 1804, by the separation of the territory of Orleans, now Louisiana, Missouri became a territory. After some abortive attempts, arising from the question whether slavery be admitted or not, Missouri was, at the session of Congress 1819—20, authorised to form a constitution, under certain conditions; the constitution was formed, and conditions being complied with, on August 10th, 1821, Missouri became a state of the United States.

NEW-HAMPSHIRE.

Position, boundaries, and extent.—Atlantic ocean S. E.; Massachusetts S.; Vermont W.; Canada N., and Maine E.

	Miles.
This state merely touches and is washed by the Atlantic ocean	20
Thence along N. boundary of Massachusetts	80
Up Connecticut river, opposite Vermont	170
The boundary between New-Hampshire and Lower Canada remains unfixed, but is about	50
In common with Maine to the mouth of the Piscataqua river into the Atlantic ocean	150
Having an entire outline of	470

Extending from N. lat. 42° 41′ to 45° 11′, and in long. from 4° 22′ to 6° 09′ E.

The mean length of New-Hampshire is very nearly that of its difference of lat. 2½ degrees, or about

174 statute miles; area 8700 square miles, and mean breadth 50 miles.

Natural Geography.—This state on a narrow extent differs more in relative elevation than any other state of the Union, and of course the mean and extreme temperature are in correspondent excess. The Atlantic border is generally a sandy beach, but followed by so rapid a rise in the surface of the interior country as to arrest the tides within 20 miles from the ocean. The mountains of the state are central with a zone of finely diversified hill and dale country around. Grand Monadnoc rises to an elevation of 3254; Moosehillock to 4636; but some of the summits of White Mountains approach or attain to 7300, and are considerably the most elevated mountain masses of the Appalachian system.

As a whole the physiognomy of New-Hampshire is bold, prominent and often sublime. Amid a very rugged exterior, this state possesses comparatively, its full share of productive soil. The mountains and hills abound in majestic timber, together with mineral treasures, particularly iron. Those resources are rendered available by the Connecticut, and more particularly the Merrimac river. By the latter and the Middlesex canal the harbour of Boston is open to the centre of the state.

New-Hampshire is a country of grain, fruits, pasturage and lumber. Here we reach the complete region of luxuriant meadow grass. The winters are however long, and with an Alpine severity of temperature. The thermometer at Keene in the south-western part of the state, has sunk to 24 below zero.

Political Geography.—The seat of government for this state is Concord, a town of secondary commercial importance, in Merrimac county. It stands on the right bank of Merrimac river, at N. lat. 43° 12′, long. 5° 30′ E. The population of the township 1820, 2830.

The commercial capital of the state is Portsmouth, situated on the south bank of Piscataqua river, about 3 miles from the open Atlantic ocean. The harbour is proverbially excellent, and from the excessive tides very seldom impeded and never altogether closed by ice. The main entrance has from 8 to 10 fathoms, of course admits vessels of the largest class of commerce or war. N. lat. 43° 04′, lon. 6° 13′ E.

The other towns will be found following their respective counties.

Counties.	*Chief towns.*	*Pop.* 1820.
Cheshire, *s. w.*	Keene	45,276
Coos, *n.*	Lancaster	5,549
Grafton, *w.*	Haverhill, Plymouth,	32,989
Hillsborough, *s.*	Amherst	53,884
Merrimac, *m.*	Concord	
Rockingham, *s. e.*	Portsmouth, Exeter	55,246
Stafford, *e.*	Dover, and Guilford	51,146
Sullivan, *w.*	Newport	
Total		244,155

Of the foregoing aggregate, engaged in

Agriculture	52,385
Manufactures	8,699
Commerce	1,088

Population to the square mile 30.

History.—The original settlement of New-Hampshire under the far more elegant name Laconia, was made under a proprietary grant to John Mason, 1621. In 1622 a second grant was made to Mason and Sir Ferdinand Gorges. To this latter conflicting grant New-Hampshire stands indebted for her separate existence. In 1623, the first attempt was made at the formation of a regular establishment

near the Piscataqua. The colonization was, however, confused and slow, the Massachusetts colony claimed a part of the country, and to superinduce still more intricacy, the Indians in 1629, were prevailed on to make what was known as "Wheelwright's Grant," and in the same year Mason obtained from the Plymouth company a new grant, to which for the first time the name of New-Hampshire was given. Misery and misgovernment were the fruits of these opposing grants, and forced the inhabitants under the protection of Massachusetts in 1640. The two colonies continued connected until 1679, when New-Hampshire in consequence of the claims of the Mason family, was made a royal government with a house of assembly chosen by the people. The vexatious claims of the representatives of Mason continued to distract the province until 1747, when they were quieted for ever by purchase. But troublesome as they were, it is more than probable, had Massachusetts done with the heirs of Mason in New-Hampshire, what it did with those of Gorges in Maine, that New-Hampshire would have remained an integral of Massachusetts.

Except distressing wars with the savages, the history of New-Hampshire continued unproductive of many events of historic importance. One of the first legislative attempts at entire separation from Great Britain was made in New-Hampshire, in the June previous to the declaration of independence, 1775. A temporary constitution was formed, and this state sustained its full share in the dangers, glory, and fruits of the revolution. The existing constitution was adopted on the second Wednesday of February, 1792. Since the latter epoch the advance of this state has been steady, calm and prosperous. The existing population it is probable considerably exceeds 270,000.

NEW-JERSEY.

Position, boundaries and extent.—Bounded by the Atlantic ocean E. and S. E.; Delaware bay S. W.; Pennsylvania W.; and New-York N., and N. E.

	Miles.
New-Jersey has a boundary on the Atlantic ocean from Cape May to Sandy Hook	120
An interior limit opposite New-York, along Raritan bay, Staten Island Sound, New-York bay, and Hudson river	60
In common with New-York from Hudson to Delaware river	45
Thence down Delaware river and bay to Cape May	220
Having an entire outline of	445

Extending from N. lat. 38° 55′ to 41° 21′, and in long. from 1° 28′ to 3° 06′.* Extreme length is directly from south to north 170 miles. Area 7870 square miles; mean breadth 46 miles.

Natural Geography.—New-Jersey presents three very marked divisions of soil; first, sea-sand alluvion; second, hilly or middle section; and thirdly, the mountainous or northern section.

The first or sea-sand alluvion occupies nearly one half the area of the state. A line from the mouth of Shrewsbury river to Bordentown, will very nearly separate the sea sand alluvial from the hilly tract. Between this natural limit and the continuation of the Blue Ridge, New-Jersey is delightfully variegated by rich and bold scenery. This hilly region contains the counties of Middlesex, Hunterdon, Somerset, Essex, Morris, and Bergen. This fine section is also decorated by several mountain ridges, but the true mountain portion of New-Jersey is the extreme northern part of the state, composed of the counties of Warren and Sussex.

* Gordon's map of N. Jersey.

The descent from the mountain to the hilly region is not by gentle declivity but abrupt like the steps of a stair. The relative elevation of the different sections, has not been very accurately determined, but the higher vallies of Sussex county must be from 800 to 1000 feet above tide water. I have myself been witness to the destructive effects of early frost at Newtown in Sussex county, whilst no symptom of such a phenomenon appeared in the vicinity of Somerville, in a difference of almost half a degree of latitude.

Declining from north to south, difference of latitude and level co-operate in New-Jersey, and in a difference less than 2½ degrees of the former a very remarkable change of climate is perceptible. The level sandy plains of the southern extreme approximate to the temperature of eastern Virginia, and admit the cultivation of cotton, whilst the seasons of Warren and Sussex counties resemble those of Vermont and New-Hampshire.

This state, rich in iron ore and so much diversified in soil and climate, abounds in a great variety of staples. It has the two large and increasing cities of New-York and Philadelphia on her borders. The staples of New-Jersey are composed of every product of her woods, mines, fields, fisheries and manufactories. Taken in every respect, it may be doubted whether this state is not the most advantageously situated of any political subdivision of the United States. The peculiar local facilities by rivers and canals may be seen by reference to the physical notices in Chap. V., and under the head of canals in Chap. XII.

Political Geography.—The principal cities or towns of New-Jersey, as elsewhere on the Atlantic slope, have risen on the margin of the primitive and head of the tides. Trenton, Princeton, New-Brunswick, Somerville, Elizabethtown and Newark, are ranged from the lower falls of Delaware at Trenton

towards the first great breach in the primitive rocks at New-York.

Trenton the seat of legislation for the state, and seat of justice of Hunterdon county, stands on the left bank of Delaware river, above the influx of Assanpink creek, and at the head of the tide, 30 miles N. E. from Philadelphia; N. lat. 40° 13′, long. 2° 19′ E. Pop. 1820, 3942.

Though dignified by the name of capital, Trenton does not contain much above one half the population or wealth of either New-Brunswick or Newark. The former stands on the right bank of the Raritan river, on the line between Middlesex and Somerset counties, and at the head of the tide. Pop. 1820, 6764. Newark is situated on an alluvial plain on the right bank of Passaick river, and 9 miles directly W. from the city of New-York, N. lat. 40° 44′, long. 2° 50′ E. Pop. 1820, 6507.

Counties.	*Chief towns.*	*Pop.* 1820.
Bergen, *n. e.*	Hackensack	18,178
Burlington, *m. s.*	Mount Holly	28,822
Cape May, *extreme s.*	Cape May C. H.	4,265
Cumberland, *s.*	Bridgetown	12,668
Essex, *m. e.*	Newark, Elizabethtown	30,793
Gloucester, *s.*	Woodbury	23,089
Hunterdon, *w.*	TRENTON	28,604
Middlesex, *m. e.*	New-Brunswick	21,407
Monmouth, *e.*	Freehold	25,038
Morris, *m. n.*	Morristown	21,368
Salem, *s. w.*	Salem	14,022
Somerset, *m.*	Somerville	16,506
Sussex, *extreme n.*	Newtown	32,752
Warren, *n. e.*	Belvidere	
Total		277,575

Of this aggregate were whites, 257,558; free coloured persons, 12,460; and slaves, 7,557. Population to the square mile 35.

In 1820, were engaged in		Agriculture	40,812
	do.	Manufactures	15,941
	do.	Commerce	1,830

Progressive Population.

In 1790	184,139	In 1810	245,560
1800	211,149	1820	277,575

This advance, evinces a general increment of about 13 per cent. in the two last decennial periods, and if continued, the existing population is about 300,000, and will be in 1830, 314,000 nearly.

History.—The first settlement of New-Jersey, was nearly cotemporary with that of New-York, and by the same nation, the Dutch, who first seated themselves on and near the mouth of the Hudson about 1612. The lower parts on Delaware bay were settled partially by the Swedes, 1628. The Dutch claimed and possessed themselves of the whole, which they held until supplanted by the English in 1664. Under the English it was made a proprietary government, being granted by Charles II. to his brother James duke of York, afterwards James II. Most happily for the prosperity of the colony it soon passed to more enlightened proprietors. The grant was in 1664 made to the duke of York, who in the same year sold his rights to Lord Berkely, and Sir George Carteret, under the name of New-Jersey. The liberal and manly policy of the new proprietors, was shewn in the establishment of representative government, and in the easy mode of conveyance and secure tenure of landed property, and also in the maintenance of strict justice towards the Indians. This happy outset was marred by the momentary conquest of the country by the Dutch, and on their expulsion, by the re-establishment, 1674, of the authority of the duke of York. In that year Lord Berkely assigned his undivided moiety of New-Jersey to William Penn, and three others. To avoid the inconvenience of joint ownership Carteret retain-

ed East Jersey, and released the western to Penn and his associates. After some years of very unpleasant controversy, the authority of the duke of York ceased in 1680, a year rendered memorable also by the arrival in the province of the first large body of Quakers, who settled and built Burlington and Salem.

In 1682, the whole province passed under the jurisdiction of Penn and his associates, but the ruinous and every where distressing interference of the infatuated Stuarts, and the claims to jurisdiction made by New-York, operated to retard the prosperity of New-Jersey. These evils were not removed, though mitigated, until 1702, when the two fragments were re-united, and peace, order, and security followed. This salutary change was effected by making the province a royal government, but it was not until 1738, that New-Jersey was ruled by a separate govnor from that of New-York.

In the revolutionary struggle, and in the incipient resistance to the oppressive measures of Great Britain, New-Jersey bore her full share, and in the hardships and privations of an eight years war no other colony of the confederacy, it is probable, suffered so much. Her devotion to the cause of freedom is fully recorded in the date of her constitution, July 2nd, 1776, two days before the Declaration of Independence by the Continental Congress.

NEW YORK.

Boundaries, extent, and position.—Bounded S. E. by the Atlantic Ocean, S. by new Jersey and Pennsylvania, W. by Pennsylvania, Lake Erie and Niagara river, N. W. by Lake Ontario and St. Lawrence river, N. by Lower Canada, and E by Vermont, Massachusetts and Connecticut.

Miles.

Beginning on the right bank of Hudson river *almost* exactly on N. lat 41°, and thence along the

N. E. boundary of New Jersey to Delaware river,	45
Up Delaware river opposite Pennsylvania to N. lat. 42°.	65
Thence W. along the N. boundary of Pennsylvania,	225
Thence N. to the shore of Lake Erie,	19
Along lake Erie to the outlet by Niagara river,	66
Down Niagara river to lake Ontario,	35
Along the southern and eastern shores of lake Ontario to St. Lawrence river,	200
Down St. Lawrence river to N. lat. 45°,	100
Up N. lat. 45° to lake Champlain,	65
Along and up lake Champlain to the influx of Poultney river,	105
Up Poultney river opposite Vermont,	10
Along W. boundary of Vermont,	54
Thence E. along S. boundary of Vermont,	3
Thence southward along W. boundary of Massachusetts,	50
Thence E. along S. boundary of Massachusetts,	2
Thence along W. boundary of Connecticut to Long Island Sound, at the mouth of Byram river,	81
From Matinicock Point on Long Island opposite the mouth of Byram river, to Montaug Point,	100
Thence westward along Long Island and Staten Island to the point of outset,	130
Having an entire outline	1355

Extending from N. lat. 40° 30′ to 45°, and lon. from 5° 08′ E. to 2° 48′ W. Length from Staten Island, S. W. point, to lat. 45°, 315 miles, and from the S. W. angle of Massachusetts along N. lat. 42°, 320 miles. Measured by the rhumbs, the area is within a small fraction of 46,500 square miles, and the mean breadth consequently, 110 miles very nearly.

Natural Geography.—Embracing 4½° of lat. and presenting a great diversity of soil and difference of relative level, New York has a climate with strongly marked extremes. The general features and structure of this state have been so minutely noticed

in Chap. V. that little need be added in this p
It is sufficient to observe, that with very little ex
tion, the physiognomy of New York is broke
hills and mountains traversed in such manne
rivers, and stretching from the Atlantic ocean t
Canadian sea, as to confer upon the whole a p
liar geographical character. Under the phy
survey in Chap. V. have been brought to view
two great depressions in the Appalachian syster
which the Erie and Champlain canals have l
traced into the vast St. Lawrence basin. T
depressions and the respective character of the
ers and lakes, constituted a combination of nat
advantages, which talent, wealth and political s
rity have as remarkably combined to render
cient.

It would be vain to attempt an enumeration of
staples of New York, as these staples are comp
of every article of domestic production, which
lines of lat. above 40° will admit. Of mineral
stances afforded within the state, the most im
tant are salt, iron, gypsum and marble, but t
four are merely the most prominent, and the
might be augmented by the addition of water-lin

Political Geography.—The city of New Y
though not even the seat of legislation for the st
is in many essential respects, the commercial c
tal of the United States. This already great em
rium stands on the southern point of Manhattan
and, 18 miles above the open Atlantic Ocean, v
the mouth of Hudson W., East river or the outl
Long Island sound E., and a most beautiful bay to
S. The Battery or southern part of New York
at N. lat. 40° 42′, almost 3° E. from Washing
City. If we include the small strait called the K
extending westward of Staten Island into New
bay, the harbour of New York has four outl
The variety of tide currents prevent the accum
tion of ice, and though when compared with

tides N. E. from the isthmus of Barnstable, those of New York are moderate, yet from the causes stated, the entrance is seldom rendered inaccessible by frost. The depth of water admits vessels of large, though not of the very greatest draught, whilst the narrowness of all the channels permits the erection of defensive works, so as to render New York in a very eminent degree secure.

As an object of taste the entire neighborhood of this city is truly worthy of admiration. The variety of surface of land and water, the activity apparent on all sides, and the monuments of art and nature brought here to a narrow circle, amply reward the traveller, and few, very few of those who really visit the place as travellers, see the most alluring points of the picture.

The population of New York was found in 1820 to amount to 123,706, which was then rapidly increasing, as may be seen by the subjoined tabular view of the progressive population.

1697	4,302	1805	75,770
1756	13,040	1810	96,373
1790	33,131	1820	123,706
1800	60,489	1825	166,086

From these elements we are taught that New York more than doubled from 1805 to 1825, or in 20 years. It is probable that for a century to come this city will double its population each 25 years, and if so, the aggregate will be in

1850	332,172	1900	1,328,688
1875	664,344	1925	2,657,376

Next to New York in population is Albany, the seat of legislation. This city stands on the right bank of the Hudson, at N. lat. 42° 39′, and long. 3° 15′ E. The site is an inclined plain of bold acclivity, the streets extending either parallel to the Hudson or nearly at right angles to that stream.

Pop. 1820, 12,867. The tides ascend to Troy, 5 miles above Albany, to which place a sloop navigation also extends.

Troy is built upon an alluvial plain, and is the only town on the Hudson of any considerable size so situated. It stands on the contrary side from Albany, 4 miles below the junction of the Mohawk and Hudson. Population of Troy in 1820, 5,264.

The city of Hudson on the Hudson river, 30 miles below Albany, but on the opposite side of the river, occupies a bold acclivity from the water, the main street extending nearly at right angles to the river. The latter in extent and population is very nearly equal to Troy, having in 1820, 5310 inhabitants.

Rochester on the Gennessee river and Erie canal, has risen in 10 or 12 years to the third rank of the cities of New York, exceeding Troy and Hudson, and only falling short of Albany.

Besides those enumerated, this prosperous state is literally decorated with beautiful and thriving towns and villages, amongst which may be named Poughkeepsie, Newburgh, Goshen, Athens, Cattskill, Schenectady, Herkimer, Waterford, Cooperstown, Syracuse, Utica with a population of 8000, Auburn, Manlius, Owego, Geneva, Canandaigua, Batavia, Buffalo and Lewiston.

Travelling over the state, it would be difficult to select amongst the villages, those most deserving of notice, and I have merely selected those I have seen: others are no doubt omitted, which as well deserve notice as those selected. This interesting state constitutes a picture, which *to be admired, needs but to be seen.*

Counties.	*Chief Towns.*	*Pop.* 1820.
Albany, *e.*	ALBANY	38,116
Allegany, *w.*	Angelica	9,330
Broome, *m. s.*	Binghamton	14,394
Cattaraugus, *w.*	Ellicottville	4,090

Counties.	*Chief Towns.*	*Pop. in* 1820.
Cayuga, *m. w.*	Auburn	38,897
Chatauque, *w.*	Mayville	12,568
Chenango, *m.*	Norwich	31,215
Clinton, *n.*	Plattsburg	12,070
Columbia, *e.*	Hudson	38,330
Cortlandt, *m.*	Cortlandt	16,507
Delaware, *m. s.*	Delhi	26,587
Dutchess, *e.*	Poughkeepsie	46,615
Erie, *w.*	Buffalo	
Essex, *n. e.*	Elizabethtown	12,811
Franklin, *n.*	Malone	4,139
Genesee, *w.*	Batavia	58,093
Greene, *e.*	Cattskill	22,996
Hamilton, *m. n.*	Wells	1,251
Herkimer, *m. n.*	Herkimer	31,017
Jefferson, *n. w.*	Watertown	32,952
Kings, *s.*	Flatbush	11,187
Lewis, *m. n.*	Martinsburgh	9,227
Livingston, *w.*	Geneseo	
Madison, *m.*	Morrisville	32,208
Monroe, *n. w.*	Rochester	
Montgomery, *m.*	Johnstown	37,569
New York, *s.*	New York	123 706
Niagara, *w.*	Lewistown	22,990
Oneida, *m.*	Rome and Whitestown	50,997
Onondaga, *m.*	Syracuse	41,467
Ontario, *m. w.*	Canandaigua	88,267
Orange, *e.*	Newburg and Goshen	41,213
Orleans, *n. w.*	Gaines	
Oswego, *n. w.*	Oswego	12,374
Otsego, *m.*	Cooperstown	44,856
Putnam, *e. s.*	Carmel	11,268
Queens, *s.*	North Hempstead	21,519
Renssalaer, *e.*	Troy	40,153
Richmond, *s.*	Richmond	6,135
Rockland, *s.*	Clarkstown	8,837
St. Lawrence, *n.*	Ogdensburg	16,037
Saratoga, *m. n.*	Ballston Spa	36,052
Schenectady, *m.*	Schenectady	13,081
Schoharie, *m.*	Schoharie	23,164

Counties.	*Chief Towns.*	*Pop.* 1820
ɜca, *m. w.*	Ovid and Waterloo	26,619
ıben, *s. w.*	Bath	21,189
folk, *s. e.*	Riverhead	24,272
ılivan, *m. s.*	Monticello	8,900
oga, *w. s.*	Owego and Elmira	16,971
ɔmkins, *m. w.*	Ithaca	20,681
lster, *m. s.*	Kingston	30,934
Varren, *e. n.*	Caldwell	9,453
Nashington, *e.*	Salem and Sandy Hill	38,831
Wayne, *n. w.*	Lyons	
Westchester, *s.*	Bedford	32,638
Yates, *m. w.*	Penn Yan	
Total		1,372,812

Of this aggregate were whites,	1,333,445
Free coloured persons,	29,279
Slaves,	10,088
Engaged in Agriculture,	247,648
Do. in Manufactures,	60,038
Do. in Commerce,	9,11'

Progressive population.

1810	959,049	1825	1,616,458
1820	1,372,812	1828	1,766,000

History.—The mouth of the Hudson was discov ed by the Dutch in 1609, and colonised by that na in the following year. In 1621 the states gener the United Provinces, conferred upon the adja country the name of the New Netherlands, ranted it to the West India Company. It rer d in the hands of the Dutch until 1664, whe hole of the New Netherlands was conquer e English. Charles II. granted this provin djacent parts to his brother James, Duke of nder the name of New York. After mu ression under the Duke's Governors, a leg ssembly was formed in 1683, and the power people augmented and secured by a bill of soon after the revolution in 1688.

New York soon became a colony of considerable consequence, but her subsequent history up to the revolution in 1775, was barren of events of much consequence. Previous, however, to the overt act of resistance, the people of New York had been made ready for opposition to any length by individual oppression. With other colonies this resisted the stamp act of 1765, and in 1767 was by royal authority restrained from legislation until quarters were provided for the British troops. This impolitic and unjust imposition of burthening the people with soldiers in time of peace, was one of the most operative causes of the revolution, and in the case of New York, was aggravated by all the insolence of power. The consequence of such measures was to add the colony to the continental confederacy. The city of New York was early in the war seized by the British, and held by them until Nov. 25th, 1783.

Some of the most memorable events of the war occurred in New York, particularly the capture of Gen. Bourgoyne and army, Oct. 1777. A year rendered still more interesting in her annals by the adoption of a republican constitution, April 20th. This instrument has been twice amended; first, Oct. 27th 1801, and Nov. 10th 1821. In the last instance, the constitution was, in point of fact, remodelled.

Subsequent to the last changes in her form of government, the completion of the two great and many lesser canals, are the most prominent incidents in the history of this prosperous state.

NORTH CAROLINA.

Position, boundaries and extent.—Bounded by the Atlantic Ocean E. and S. E., by South Carolina S. and S. W., by Tennessee W., and Virginia N.

Miles.

Beginning on the Atlantic Ocean at the S. E. angle of Virginia, thence along that ocean to

the extreme eastern angle of South Carolina,	30
Thence in common with South Carolina,	30
Along N. E. part of Georgia,	2
In common with Tennessee,	16
In common with Virginia,	30
Having an entire outline of	1098

Extreme length from the western border of Haywood county to Cape Hatteras, in a direction but little inclined from east and west, 420 miles, and the area being a fraction above 50,000 square miles, the mean width may be assumed at 120 miles.

Extending from N. lat. 33° 50′ to 36° 30′, and in long. from 1° 30′ E. to 7° 12′ W.

Natural Geography.—Not even excepting Georgia, no state of the Union differs more in relative soil, than does North Carolina, and it also approaches Georgia in diversity of climate. Those zones of ocean alluvion, hills and mountains, which diversify New Jersey, Maryland and Virginia, become most conspicuous in North Carolina. The subjoined table shews the relative extent of the three natural sections, and their respective population by the census of 1820.

Sections.	Area.	Whites.	Fr. Col.	Slaves.	Total.
Alluvial,	22,743	163,559	10,009	113,830	287,398
Hilly,	14,000	165,980	4,582	79,720	250,282
M'ntainous.	13,257	85,025	515	15,677	101,217
Totals,	50,000	414,564	15,106	209,227	638,897

Without regarding the mountain ridges, we may safely allow 1000 feet difference of level between the sandy plains near the Atlantic coast, and the elevated vallies of the western and mountainous section of North Carolina. The extremes of the state differ 2° 40′ in lat. which combined with the allowance 2° 30′ for an elevation of 1000 feet, will yield extremes of temperature amounting to 5° 10′.

The great variety of climate is fully evinced by indigenous vegetables. The dwarf palms, and the live oak grow around the mouth of Cape Fear river, whilst in the western counties, the forests mark a climate of very abated mean temperature. The exotic vegetables have a variety consonant to the contrasted seasons. In the south eastern counties, and partially on the whole sea-sand zone, cotton is a staple production. As an advance is made westward this vegetable is followed and entirely superceded by grain, of almost every species cultivated in the United States except rice. The fig tree flourishes on Lower Cape Fear river; and in the western and central counties the apple is produced in abundance. The peach succeeds over the whole state, precarious as it is in every other section of the United States.

This state with a considerable line of sea coast, is in a singular manner devoid of good harbours, though the Roanoke and its confluents, the Neuse and its confluents, and Cape Fear river all debouch into the ocean upon its border. Cape Fear with 18 feet water is the deepest entrance into the state. The natural consequences of this defective access have been to turn the trade of central North Carolina into Virginia on one side, and to Charleston, South Carolina, on the other.

Though there is very much of fancy in the relative salubrity of the sea coasts and interior of the southern states, there must be a real difference, in nature, between the atmosphere over the sandy plains or marshes near the tides, and the elevated, waving and well watered vallies above the falls of the rivers. Perhaps this contrast is in no other state more decidedly marked. It contains the most extensive section and most salient part of the great sea sand zone, which sweeps round the United States from New York to Texas, and it also possesses a large tract of the finest vallies of the Appalachian system. Between such extremes the traveller mr

find a considerable portion of all the annual vicissitudes in the meteorology of the United States.

In North Carolina is first found, receding from the north, those immense pine forests, which cover so much of all the southern states to Louisiana inclusive. Pine of various species is indeed found in almost every part of the Atlantic slope, but it is when passing Virginia that we discover this genera of trees usurping large spaces to the almost utter exclusion of other timber. Turpentine, tar, and pine lumber are therefore more or less staples of all the southern states. I have myself travelled a whole day, and made from 30 to 40 miles amid an unbroken forest of pines. Where these trees prevail they are the most exclusive of all trees, and every where indicative of sterility of soil.

Iron is found abundantly in North Carolina, and this state alone, amongst the states of the United States, has afforded gold in any considerable quantity. Very happily this seductive natural production does not greatly abound in the auriferous districts of North Carolina. The metal is found admixed with the soil in grains or lumps, from the most minute perceptible particles to masses of near two pounds avoirdupois.

Political Geography.—Raleigh, the seat of justice for Wake county, and seat of government of the state, is situated on the right bank of the Neuse river, 60 miles north by east from Fayetteville, at N. lat. 35° 44′, long. 1° 48′ W. The seat of legislation was fixed here in 1791. Population 2000. No town of any considerable magnitude has risen in this state; Fayetteville, Washington, and some others are active and wealthy depots, but as the tropics are approached the disposition of man to congregate in cities becomes weaker, and no other circumstance so strongly contrasts the extremes of the United States, as the size and frequency of the villages in the northern, and their scarcity in the southern states. This remarkable

difference cannot arise from relative density of population, as it is equally apparent whatever may be the respective population. If Natchez, on the Mississippi, with its combined commercial advantages, stood 10° of lat. more northwardly, it would long since have contained ten times its population. Charleston and New Orleans are mere exceptions to a general rule. But to return to the description of North Carolina.

Counties.	*Chief towns.*	*Pop.* 1820.
Anson, *s.*	Wadesboro	12534
Ashe, *n. w.*	Jeffersonton	4335
Beaufort, *e.*	Washington	9850
Bertie, *n. e.*	Windsor	10805
Bladen, *s.*	Elizabethtown	7276
Brunswick, *s.*	Smithville	5480
Buncombe, *w.*	Ashville	10542
Burke, *w.*	Morgantown	13411
Cabarras, *m. w.*	Concord	7248
Camden, *n. e.*	Camden C. H.	6347
Carteret, *e. s.*	Beaufort	5609
Caswell, *n.*	Caswell	13253
Chatham, *m.*	Pittsboro	12661
Chowan, *n. e.*	Edenton	6464
Columbus, *s.*	Whitesville	3912
Craven, *s. e.*	Newbern	13394
Cumberland, *m. s.*	Fayetteville	14446
Currituck, *n. e.*	Currituck	8098
Davidson, *m. w.*	Lexington	
Duplin, *m. s.*	Duplin C. H.	9744
Edgecombe, *m.*	Tarboro	13276
Franklin, *m. n.*	Louisburgh	9741
Gates, *n. e.*	Gates C. H.	6837
Granville, *n.*	Oxford	18222
Greene, *m. e.*	Snow Hill	4533
Guilford, *m. w.*	Greensboro	14511
Halifax, *n.*	Halifax	17237
Haywood, *s. w.*	Franklin	4073
Hertford, *n. e.*	Winton	7712
Hyde, *e.*	Germantown	4967

Counties.	*Chief towns.*
Iredell, *m. w.*	Statesville
Johnson, *m.*	Smithfield
Jones, *s. e.*	Trenton
Lenoir, *m. e.*	Kingston
Lincoln, *s. w.*	Lincolnton
Martin, *m. e.*	Williamston
Mecklenburgh, *s. w.*	Charlotte
Montgomery, *m. w.*	Lawrenceville
Moore, *m. s.*	Carthage
Nash, *m. n.*	Nashville
New Hanover	Wilmington
Northampton, *n. e.*	Northampton C. H.
Onslow, *s.*	Swansboro
Orange, *m. n.*	Hillsboro
Pasquotank, *n. e.*	Elizabeth City
Perquimans, *n. e.*	Hertford
Person, *n.*	Roxboro
Pitt, *m. e.*	Greenville
Randolph, *m. w.*	Ashboro
Richmond, *s.*	Rockingham
Robeson, *s.*	Lumberton
Rockingham, *n.*	Wentworth
Rowan, *m. w.*	Salisbury
Rutherford, *s. w.*	Rutherfordton
Sampson, *m. s.*	Clinton
Stokes, *n. w.*	Salem
Surry, *n. w.*	Rockford
Tyrrel, *e.*	Columbia
Wake, *m.*	RALEIGH
Warren, *n.*	Warrenton
Washington, *e.*	Plymouth
Wayne, *m.*	Waynesboro
Wilkes, *n. w.*	Wilkesboro

Total,

The above elements show that whilst t
or hilly section of North Carolina has a c
population of 18 to the square mile, th
alluvial counties have but 12, and the m
a small fraction above 7. This feature

tribution of population is common to Virginia, both Carolinas, and Georgia, as may be seen by reference to those articles respectively. Another very important circumstance in the statistics of these states is, that the proportion of the castes is numerically on the two eastern sections inverse to density of general population. The coloured race is most numerous, comparatively, on the sea-sand alluvion, becomes less so on the hilly region, and least of all on the western mountainous tracts.

History.—The first, but abortive attempt by the English to colonize North America, was made in 1586, under a patent to Sir Francis Drake. A small colony was left on the Roanoke, in 1587, but was never again to be found; they sunk from the reach of all attempts to ascertain their fate. Some emigrants from Virginia penetrated the country about 1650, and made the first actual settlement of whites. What is now Carolina had been marked on the early Spanish maps as part of Florida. By the French it had received the name of Carolina, in honour of Charles IX. king of France, when the disastrous attempt was made by the French to colonize the North American coast, noticed under the head of Florida. The name Carolina prevailed. In 1661, a second English colony, from Massachusetts, reached and fixed themselves at Cape Fear river. After many vexatious struggles, the infant colony obtained a representative government in 1667, but two years afterwards marred by the fanciful constitution so famous under the name of Locke's scheme of government. This wild project was soon abandoned, and, like other English colonies, the advance of Carolina was slow, and its history rendered horribly memorable by a most destructive savage war in 1712. Previous to 1717 Carolina had been a proprietary government, but in that year became royal by purchase, and continued such until the revolution

in 1775. In 1720, the two Carolinas were separated into North Carolina and South Carolina.

North Carolina experienced a very great advantage in the revolutionary war from her inaccessible coast. Those destructive inroads, so ruinous in other states along the Atlantic, were here impracticable. Though, however, less exposed, the people of this state evinced their full sympathy with the residue of the American people. A convention was assembled at Halifax, where, on December 18th, 1776, the existing constitution was adopted. Since that auspicious event it may be doubted whether any other community ever passed fifty-two years with less of those sombre events which constitute the bulk of history; or whether a more unambitious community ever existed, with as much to excite and justify ambition.

OHIO.

Boundaries, position, and extent.—Bounded by Ohio river or Virginia S. E., Ohio river or Kentucky S., Indiana W., Michigan territory and Lake Erie N., and Pennsylvania N. E.

	Miles.
Beginning on Ohio river at the mouth of Great Miami and thence northward along E. boundary of Indiana from N. lat. 39° 07′ to 41° 35′	170
Thence due E. along the S. boundary of Michigan	80
Thence along the southern shores of Lake Erie to the N. W. angle of Pennsylvania	150
Due S. along the western boundary of Pennsylvania	93
Down Ohio river to the place of outset	440
Having an entire outline of	933

Extending from N. lat. 38° 30′ to 42°, and in long. from 3° 34′ to 7° 44′ W. Area 40,000 square miles. The breadth of Ohio, between the two meridian boundaries

of Pennsylvania and Indiana, is within a very small fraction of 220 miles, consequently the mean breadth, in the direction of north and south, is about 182 miles.

Natural Geography.—The form of Ohio is more completely compact than any other state of the United States, and if the inflections of Ohio river be disregarded, contains the greatest area in proportion to perimeter. In our survey of Ohio and its confluent rivers, the state of Ohio was shewn to be composed of two unequalled inclined planes, the widest sloping towards the Ohio, and the narrowest, but most abrupt, declining into lake Erie. It has been also shewn that the interior table land of this state, was comparatively flat, and that the rivers oozing from this plateau, gained rapidity of current and depth of channel, advancing towards their recipients, and that the hills along and near Ohio river were the remains of a once elevated country now cut into deep chasms by the abrasion of water.

The state of Ohio in reality occupies about one third of that unequalled plane which declines from Pennsylvania to Mississippi river. Taken as a whole, this truly productive tract of 600 miles in length, and exceeding two hundred mean width, and now comprised in Ohio, Indiana, and Illinois, has no equal on earth, in any one continuous body. If this region is estimated above Ohio river or lake Erie, there is no one point, it is probable, 800 feet above the latter, or the surface of the former at Pittsburg. As the Ohio itself depresses, so does the interior table land, and the general difference of level may be estimated from about 460 down to 100 feet.

Except along the deep vales of Ohio and other streams near their efflux into that recipient, the climate is as uniform as the surface, and considerably more severe in the winter season, than corresponding latitudes on the Atlantic. It was indeed mistaking the phenomena of vegetation on Ohio river for

that of the whole of its valley, which produced those mistakes in meteorology which supposed the climate of this section of North America an anomaly. Many of these river vales are so situated as to concentrate the rays of the sun, and produce a reverberating heat; again they are depressed below the adjacent country, and of course, the amount of that depression compensates for difference of latitude: but with all these causes of misconception, it is yet matter of wonder that the freezing of the rivers did not afford correct means of comparison. The tables in this View may have some tendency to awaken attention to the subject, and to place the philosophy of meteorology in the Mississippi basin in its true light.

It has been noticed by Dr. Drake, that the winters of the northern part of Ohio were much more severe than similar seasons at Cincinnati. The causes are obvious from the data given in this View, Chap. X.; and are, difference of latitude, level, and exposure.

In a state of nature, Ohio was, with the exception of some central prairies, covered with a most dense forest of trees, to which the excessive fertility of the soil gave a most stupendous developement. Quitting the Appalachian system, the genera of pines, or terebinthine trees, become rare, as do evergreens of any species north of the region of palms, laurels, hollys, and laurier almond. In Louisiana, wherever the terebinthine trees cease, they are succeeded by the laurel, magnolia, holly, lesser laurel, and towards the sea coast, by the cypress, evergreen sassafras, and live oak; but in the Ohio valley, the region of pines is at once followed by deciduous trees. This very strong contrast in the components of their respective forests in winter, is another cause of overrating the temperature of the climate of Louisiana. Descending the rivers in the winter, the dark green of the forests augments, and consequently, that air of *desolation* softens, which renders a country of

entirely deciduous trees so dreary, when their naked branches only meet the eye.

The size, majesty, and generic and specific variety of the trees of the Ohio basin has been a just theme of admiration, but I am inclined to consider the picture over-coloured. I spent my early years in the Ohio valley and Mississippi basin alternately, and could never observe any single species of tree common to both, say Ohio and Louisiana as extremes, which did not reach a height and mass greater in the lower climate of Louisiana. This is the case with every species of oak and hickory, with sassafras, the liriodendron, the elms, and numerous other trees. If there is an exception, it is the sycamore, and even of that I am very doubtful.

In cultivated vegetables, Ohio is in a peculiar manner productive. Indian corn, wheat, rye, oats, barley, tobacco, and orchard fruits, are staples. Meadows and gardens, where due attention is paid to their improvement, have a correspondent abundant production.

Of metallic matter, iron is the only ore found in great quantity. Coal, of the bituminous species, exists in extensive strata along the Ohio and some of its confluent streams, and no doubt underlays parts of the state too level to expose its existence except by artificial means.

The peculiar commercial advantages of this state have been already sufficiently noticed under the different heads of rivers and canals.

Political Geography.—Ohio shares a common feature with the greater number of states of the United States, that its real is not its legal capital. The city of Cincinnati, is the second emporium in population, commerce, wealth, and literary institutions, which has risen in the basin of Mississippi. This rapidly increasing city stands on an undulating acclivity on the right bank of Ohio river, at N.lat. 39° 06′, and long. 7° 25′ W. It is by the channel of

Ohio, 445 miles below Pittsburg; 860 from New Orleans by land, and 850 from New York by the route of lake Erie, Erie canal, and Hudson river. It was first laid out by Judge Symmes, in 1789, but did not increase much until after the treaty of Greenville, 1795. The progressive population is a real phenomenon in colonization. In 1810, the population was 2,540; in 1813, 4,000; in 1820, they had risen to 10,000; to 12,016 in 1824, and in 1826, to 16,230. The existing population falls but little, if any, below 20,000. "There are," (1828) says Mr. Flint, a resident author, "28 clergymen, 34 attorneys, 35 physicians, 800 persons engaged in mercantile pursuits, 500 in navigation, and 3000 in manufactures."

The mercantile, literary, religious, and manufacturing establishments are numerous and highly respectable. The markets are abundantly supplied, and here in the great central basin is seen all the richly varied features of a prosperous, active, intelligent, and highly civilized emporium.

Columbus, the seat of legislation, stands on the left bank of Sciota river, at N. lat. 39° 57′, and long. 6° 02′ W., and very near the centre of the state, 101 miles N. E. from Cincinnati. In the spring of 1812, the site was under a dense forest; it now contains the necessary buildings for the seat of justice of Franklin county, and for the seat of state legislation. Steubenville on the right bank of Ohio river, at N. lat. 40° 25′ and long. 3° 40′ W., is in reality the second town of the state. I was myself on the spot in 1799, when the first rude buildings were rising amid a thick growth of primeval trees; and the population now exceeds 3000. The importance of the place cannot, however, be estimated from comparative population, as the manufacturing establishments are highly important.

In respect to its villages Ohio verifies, in a most striking manner, the remark I have made under

the head of North Carolina; that is, the tendency of the northern population to form towns, and *vice versa* in the southern and slave-holding states. Besides those already named in this article, to sustain the hypothesis, we may add, Zanesville and Putnam, united by two bridges over Muskingum river, Chilicothe on Sciota, Marietta at the mouth of Muskingum, Dayton, Cadiz, Cleaveland, Athens, St. Clairsville and many more.

In relative importance the canal system of Ohio is a most important feature in the internal improvement of the United States; and if we regard the recent settlement of the state, an unequalled moral and political phenomenon. Those canals have been noticed, and it may be merely added here, that the project of forming a great canal line across the state was first acted on as a legislative measure in 1819, and first effectually commenced in 1825.

The Ohio canal, including feeders, is about 320 miles in length, with 1185 feet lockage. It debouches into Lake Erie at Cleaveland, and into the Ohio at Portsmouth, near the mouth of Great Sciota. The Miami canal between Dayton and Cincinnati is nearly completed, and the Ohio canal it is calculated will be completed in 1830.

Counties.	*Chief towns.*	*Pop. in* 1820.
Adams, *s.*	West Union	10406
Allen, *w.*	Amanda	
Ashtabula, *n. e.*	Jefferson	7382
Athens, *s.*	Athens	6338
Belmont, *e. s.*	St. Clairsville	20329
Brown, *s. w.*	Georgetown	13356
Butler, *s. w.*	Hamilton	21746
Champaign, *m. w.*	Urbana	8479
Clark, *m. w.*	Springfield	9533
Clermont, *s. w.*	Batavia	15820
Clinton, *s. w.*	Wilmington	8085
Columbiana	New Lisbon	20033
Coshocton, *m. e.*	Coshocton	708[illegible]

Counties.	*Chief towns.*	*Pop*
Crawford, *m. n.*	Bucyres	
Cayahoga, *n.*	Cleaveland	
Darke, *w.*	Greenville	
Delaware, *m.*	Delaware	
Fairfield, *m. s.*	Lancaster	
Fayette, *m. s.*	Washington	
Franklin, *m.*	COLUMBUS	
Gallia, *s.*	Gallipolis	
Geauga, *n. e.*	Chardon	
Greene, *m. w.*	Xenia	
Guernsey, *e.*	Cambridge	
Hamilton, *s. w.*	CINCINNATI	
Hancock, *n. w.*	Finley	
Hardin, *m. w.*	M'Arthur	
Harrison, *e.*	Cadiz	
Henry, *n. w.*	Damascus	
Highland, *s.*	Hillsboro	
Hocking, *m. s.*	Logan	
Holmes, *m. e.*	Millersburg	
Huron, *n.*	Norwalk	
Jackson, *s.*	Jackson	
Jefferson, *e.*	Steubenville	
Knox, *m.*	Mount Vernon	
Lawrence, *s.*	Burlington	
Licking, *m.*	Newark	
Logan, *m. w.*	Bellefontaine	
Lorain, *n.*	Elyria	
Madison, *m.*	New London	
Marion, *m.*	Marion	
Medina, *n.*	Medina	
Meigs, *s.*	Chester	
Mercer, *w.*	St. Mary's	
Miami, *w.*	Troy	
Monroe, *s. e.*	Woodsfield	
Montgomery, *s. w.*	Dayton	
Morgan, *s. e.*	M'Connellsville	
Muskingum, *m. e.*	Zanesville	1
Paulding, *n. w.*		
Perry, *m. s.*	Somerset	

Counties.	Chief Towns.	Pop. 1820.
.way, *m. s.*	Circleville	13149
s.	Piketon	4253
ge, *n. e.*	Ravenna	10095
e, *w. s.*	Eaton	10237
ım, *w.*		
ınd, *m. n.*	Mansfield	9169
s.	Chillicothe	20619
ısky, *n.*	Croghansville	852
), *s.*	Portsmouth	5750
:a, *n.*	Tiffin	
y, *w.*	Sidney	2106
e, *e.*	Canton	12406
ıbull, *e. n.*	Warren	15546
ırawas, *e.*	New Philadelphia	8328
ı, *m. w.*	Marysville	1996
Wert, *w. n.*	Willshire	
en, *s. w.*	Lebanon	17837
ington, *s. e.*	Marietta	10485
ıe	Wooster	11933
ıms	Defiance	
l	Maumee	733
'otal		581,434

Of these, engaged in	Agriculture	110,921
Do	Manufactures	18,956
Do	Commerce	1459

Progressive Population.

1790	3,000	1810	230,760
1800	45,365	1820	581,434

ı 1830," says Mr. Flint, "there is no doubt, but it xceed a million."

istory.—This giant, yet in its cradle, first ıg to life in 1788, at Marietta, and was put unhe fostering care of General Rufus Putnam and ;ev. Dr. Manasseh Cutler. Essex and Middleounties, in Massachusetts, were the parents of ınfant colony. In 1787, the territory north-

west of the river Ohio had been formed, of
the now state of Ohio was a part. The ea
tlements, like those of Kentucky, were n
tears and blood, and advanced slowly, until tl
ty of Greenville in 1795, and the surrender
chigan territory in 1796, gave peace and sec
the west. Ohio was detached from the
western territory in 1800, and formed, with
gan, a separate jurisdiction. Having acqui
requisite numbers, the Congress of the
States, in April, 1802, authorised the forma
constitution. The convention under this
November, 1802, and on the 29th of that
adopted the existing constitution. In Januar
the state was formally admitted into the
and, except unexampled augmentation of
force, and the erection of her stupendous ca
afforded no subsequent historical events un
ed with the general history of the United St

The official military reports made the n
Ohio, in 1826, amount to 110,176 effective n

PENNSYLVANIA.

Position, boundaries, and extent.—Northern
New Jersey E., Southern New Jersey and Del
E., Maryland S., Virginia S. W., the state of
lake Erie N. W., and New York N. and N. E.

Beginning on the Delaware river, at the extr
N. E. angle of the state of Delaware, and th
with the semicircle of 12 miles round New C
to the eastern border of Cecil county, Maryl
Thence northward to the N. E. angle of Maryl
Along the northern boundary of Maryland and
curve of N. lat. 39° 43′ to the N. W. angl
Maryland
In common with Virginia, from the N. W. ang
Maryland to the S. W. angle of Pennsylvania i

	Miles.
Due N. along Ohio and Brooke counties, Virginia, to Ohio river	64
Continuing the last limit due N. along the state of Ohio to lake Erie	91
Along the S. E. shore of lake Erie to the western limit of New York	39
Due S. along Chatauque county, New York, to N. lat. 42° and the N. W. angle of the latter state	19
Due E. in common with New York, to the right bank of Delaware river	230
Thence down Delaware river to the place of outset	230
Having an entire outline of	959

Extending from N. lat. 39° 43′ to 42° 16′, and in long. from 2° 20′ E. to 3° 36′ W.

Next to Ohio and Connecticut, Pennsylvania is the third most compact state in the confederacy. I have taken some pains to determine the exact area of this state, from finding glaring errors in the tables on the state map, and have found that, measured by the rhumbs, or calculated as a section of the sphere, the superficies is so near 47,000 square miles as to admit the adoption of that round number. The breadth is very nearly that of its extremes of latitude, rejecting the small triangle north of 42°, or 158 miles nearly. The mean length is within a small fraction of 300 miles.

Natural Geography.—It may be doubted whether a more widely diversified and equally continuous region exists on the face of the earth than Pennsylvania, or one of similar area, on which the vegetable and mineral productions are generically or specifically more numerous. In a state of nature the streams of this state flowed through a most dense forest. In the same sense as applied to the sea-sand alluvial zone noticed under the heads of the two Carolinas, Georgia, Florida, Alabama, and Louisiana, no part of Pennsylvania is level, and in respect to surface is

divisible into three natural sections. First, a small but important hilly tract between the sea-sand alluvion and the lower ridges of the Appalachian system; second, the mountainous, or middle section; and third, the western hilly. The subjoined tabular view presents the respective area of these sections and their distributive population according to the census of 1820.

Sections.	Square miles.	Aggregate Population.	Population to the sq. mile.
Eastern,	7,869	569,355	77
Middle or M'ntainous	25,189	260,506	10
Western,	13,942	219,597	16⅓
	47,000	1,048,458	22⅓

		Square Miles.	Acres.
Of preceding area	Delaware drains	6,710	4,294,400
do.	Susquehanna	21,390	13,685,600
do.	Genesee	150	96,000
do.	Potomac	1,590	1,017,600
do.	Ohio	16,760	10,598,400
do.	Lake Erie	380	243,200
		46,980	29,935,200

The relative level of the cultivatable soil of Pennsylvania, if the mountain plateaus are included, differs about 1200 feet or an equivalent to three degrees of latitude, therefore the extremes of latitude being 2° 17′ or equal to 2°.3 of Faht. the real extremes of temperature over the state amount to near 5½° of that instrument. The ample tables in Chap. X. will enable the reader to make his own comparisons.

Pennsylvania is emphatically a country congenial to wheat, meadow grass and the apple, but admits a wide diversity of other vegetable productions. Grain, except rice, embraces the whole list of cerealia cultivated in the United States; and amongst

fruits, besides the apple, peaches, pears and plums abound.

Of indigenous forest trees this state yields as great specific variety, as it is probable is to be found on the globe in a zone two degrees and one third wide, and not quite 6 degrees of longitude in length. The terebinthine forests are in great part confined to the mountains, and the deciduous trees to the eastern and western seetions. On the latter, the sugar maple, rare even in the mountain vallies except towards New York, becomes plentiful. These distinctions are however general, as the great mountain vallies differ in no essential respect from other hilly parts of the state. The productive soil is also, in a very remarkable manner, equally distributed. Some of the most fertile alluvial river bottoms in the state are included in the mountain section.

It ought to be particularly noticed that the apparent difference of relative population has arisen more from political than natural causes. Much of the northern part of the state has been and continues untenanted, from being held by owners who seem to either consider their property of no value, or of such high value as to reserve it for future ages. The great body of the population has spread over the eastern, southern, and western borders, and left the central and northern a comparative wilderness.

On strict geographical principles, the whole of Pennsylvania is within the Appalachian system. If due regard is paid to the courses of the rivers, this truth becomes undeniable. The same hypothesis is again sustained by the distribution of fossil bodies. Of these, the first advancing from the primitive ledge is marble of beautiful variety and excellent texture. This fine production has contributed to adorn the eastern towns, and even farm houses of the state. Iron and anthracite coal follow marble, and exist in masses which defy all human power to exhaust. Iron continues to abound over the whole

state, and where the anthracite coal ceases, the bituminous commences, and seems to underlay great part of the western, and some of the central parts of the state. As if to complete the list of most useful fossil bodies, water holding muriate of soda (common salt) in solution, abounds where it is most valuable. In the region of bituminous coal, wherever the earth has been penetrated to any great depth, salt water has been found. Salt works, on a large scale, exist on the Conemaugh and some other parts of the western section.

Pennsylvania seems a region from which navigable streams flow as radii from a common centre. Under the head of canals we have seen a brief view of how far human exertion has been made to render the advantages of nature effectual.

Political Geography.—The seat of legislation has been placed at Harrisburg, on the left bank of the Susquehanna, 100 miles W. from Philadelphia, at N. lat. 40° 16′, and in long. 0° 07′ E. This borough was laid out on an alluvial bank of the Susquehannah, the streets extending with or at right angles to the river. The population in 1820 was nearly 3000, and is at present considerably increased. The state house stands on a comparative hill, and the town being placed at the intersection of a river and mountain valley, a most magnificent sweep of vision opens from the dome. The whole vicinity is strongly marked by richness and variety of landscape, and by a fertile and well cultivated soil. A substantial bridge connects Harrisburg with the opposite bank of the Susquehanna.

The actual capital of Pennsylvania is Philadelphia. This already great city stands on an alluvial deposit at the margin of the primitive ledge, and on the peninsula between the Delaware and Schuylkill rivers, at N. lat. 39° 57′, in long. 1° 56′ E. and 74° 59′ W. from the Royal Observatory at Greenwich, 88 miles S. W. from New York, 110 N. E. from

Baltimore, and about 100 miles by water within the Capes of Delaware.

The original Indian name of the place was Coaquannoc, but being chosen by William Penn as the seat of government for his colony, he gave it the name of Philadelphia. It was laid out in 1683, and the second Assembly of Pennsylvania met there April 1683. The advance of this city was steady and in a singular manner uniform. At the period of all subsequent enumerations after its foundation, the numbers within it and the immediate precincts amounted to about the one-tenth of the whole number in the colony or state. In 1753 the inhabitants amounted to 18,000, in 1790 they had increased to 43,527, in 1810 to 92,247, and in 1820 to 108,809. It is not within the scope of this View to enumerate the public edifices of any city, nor even its literary institutions; it may be sufficient to observe that Philadelphia is at this time, 1828, most rapidly increasing; from what I have seen within a few days not less than one thousand houses, and many of them superb mansions, are rising, and what is better for real improvement of the city, these buildings are mostly on the hitherto vacant lots within the formerly built parts. I was in Philadelphia when the census of 1820 was taken and am convinced it was greatly under-rated. There is at present with every due allowance not less than 150,000 people in the city and its liberties.

Lancaster and Pittsburg are both chartered cities. The former contained by the census of 1820, 6633 inhabitants. It is compactly built, and is a place of great wealth and business, but rather stationary in respect to increase of population.

Pittsburg, the Birmingham of Pennsylvania, and indeed of the Ohio valley, stands on the peninsula between the Monongahela and Alleghany rivers, 282 miles westward from Philadelphia, at N. lat. 40° 27′, long. 3° 02′ W. Similar to Philadelphia.

the census tables present a false view of the population of Pittsburg by excluding the suburbs. In a commercial point of view, Pittsburg is composed of the city proper, Northern Liberties, village of Alleghany, Birmingham, and some still smaller places in the vicinity. In 1820 the census gave an aggregate population of 7248; it was really at that time no doubt above 10,000, and now rising 15,000. A fine bridge has been erected over each river, and the interior of the city has the aspect of one great workshop. The adjacent hills contain incalculable quantities of bituminous coal of excellent quality, which is rendered easy of access by lying in strata upwards of 300 feet *above* the streets of the city. In addition to a good turnpike road it will soon be connected with the Susquehanna valley by a system of canals.

Reading on the Schuylkill, Easton on the Delaware, at the mouth of the Lehigh, Sunbury and Northumberland united by a bridge at the junction of the two great branches of Susquehanna, Wilkesbarre on the eastern and Williamsport on the western branch of Susquehanna, York, Gettysburg, Carlisle, Chambersburg, Huntingdon, Bedford, Waterford and Erie, are all fine borough towns, and some of perhaps not much lesser note may be enumerated, such as Lebanon, Allentown, Lewistown, Bethlehem, &c.

The canals of this state have been noticed under the head of the United States. In reality the Chesapeake and Delaware canal is in great part a work of Pennsylvania, and may with propriety be enumerated amongst the improvements executed under the patronage and with the capital of this powerful state.

Counties.	*Chief towns.*	*Pop.* 1820.
Adams, *s.*	Gettysburg	19370
Allegheny, w.	PITTSBURG	34921

Counties.	*Chief Towns.*	*Pop.* 1820.
Armstrong, *w.*	Kittanning	10324
Beaver, *w.*	Beaver	15340
Bedford, *s.*	Bedford	20348
Berks, *n. e.*	Reading	46275
Bradford *n.*	Meanville	11564
Bucks, *e.*	Doylestown	37842
Butler, *w.*	Butler	10193
Cambria, *m. w.*	Ebensburg	3287
Centre, *m.*	Bellefonte	13796
Chester, *s. e.*	West-Chester	44451
Clearfield, *m. w.*	Clearfield	2342
Columbia, *m.*	Danville	17621
Crawford, *n. w.*	Meadville	9397
Cumberland, *m. s.*	Carlisle	23606
Dauphin, *m.*	HARRISBURG	21653
Delaware, *s. e.*	Chester	13701
Erie, *n. w.*	Erie	8553
Fayette, *s. w.*	Uniontown	27285
Franklin, *s.*	Chambersburg	31892
Greene, *s. w.*	Waynesburg	15554
Huntingdon, *m.*	Huntingdon	20142
Indiana, *m. w.*	Armagh	8882
Jefferson, *m. w.*	Port Barnet	561
Lancaster, *s. e.*	LANCASTER	68336
Lebanon, *m. e.*	Lebanon	16988
Lehigh, *e.*	Allentown	18895
Luzerne, *n. e.*	Wilkesbarre	20027
Lycoming, *m. n.*	Williamsport	13517
M'Kean, *n.*	Smethport	728
Mercer, *w.*	Mercer	11681
Mifflin, *m.*	Lewistown	16618
Montgomery, *s. e.*	Norristown	35793
Northampton, *e.*	Easton	31765
Northumberland, *m.*	Sunbury	15424
Perry, *m.*	Bloomfield	11342
Philadelphia, *s. e.*	PHILADELPHIA	137097
Pike, *n. e.*	New-Milford	2894
Potter, *n.*	Coudersport	186
Schuylkill, *m. e.*	Orwigsburg	11339

Counties.	*Chief towns.*	*Pop. in* 1820.
Somerset, *s. w.*	Somerset	13974
Susquehanna, *n. e.*	Montrose	9960
Tioga, *n.*	Wellsboro	4021
Union, *m.*	New-Berlin	18619
Venango, *n. w.*	Franklin	4915
Warren, *n. w.*	Warren	1976
Washington, *s. w.*	Washington	40038
Wayne, *n. e.*	Bethany	4127
Westmoreland, *m. w.*	Greensburg	30540
York, *s.*	York	38759
Total		1,049,458

Of the preceding aggregate, engaged in

	Agriculture	140801
do.	Manufactures	60215
do.	Commerce	7083

History.—The exact time when, or by what civilized nation, the first settlements in Pennsylvania were made, is doubtful. The Dutch had discovered and named the Delaware, as early as 1612. They called the Hudson North river, and the Delaware South river, relatively to their geographical position. A Swedish colony, under the auspices of Gustavus Adolphus, reached Delaware in 1628, and the Roman Catholic colony who planted Maryland, reached the Chesapeake in 1633. Pennsylvania was thus early claimed by three nations. The Dutch supplanted the Swedes, and were themselves subdued by the English in 1664. In the interim scattering settlements were made along the Delaware by, it is probable, individuals of all parties. Subsequent to 1664, the whole Delaware country was claimed by the duke of York under the grant already mentioned in the articles Delaware, New Jersey and New York, and so remained until November 1680, when the famous charter of Pennsylvania was granted to William Penn, and in May 1681 taken possession of *in his* name by his relation, Markham. Penn him-

self arrived in the Delaware, and landed at New Castle, Oct. 24th, 1682, and found already in the country about 3000 people, Dutch, Swedes, Finns and English. The first assembly met, and we may say the first real foundation of Pennsylvania, as an English colony, was laid at Chester, December 4th, 1682. The most prominent incidents in the future history of this peculiar colony may be seen in the historical introduction to this View. I can only subjoin here, that Pennsylvania acted a most conspicuous part in the revolution. It was in her capital that that Declaration was made, which really changed the history of the world, and provided a vantage ground on which the claims of human rights could be sustained.

In 1776, a constitution was formed, which was superceded by a second, adopted September 2d, 1790. Since the latter period the morning dawn of Pennsylvania, with the exception of one or two dark and heavy clouds, has been clear, serene and brilliant. Her history has been for thirty-four years made up from the records of improvement in every thing which can secure the permanent happiness of her citizens.

RHODE-ISLAND.

Position, boundaries, and extent.—Bounded by the Atlantic ocean S. and S. E.; Connecticut W., and Massachusetts N., N. E. and E.

	Miles.
Having an outline along the Atlantic ocean	40
Along Connecticut	50
Along Massachusetts	70
With an entire outline of	160

Extending from N. lat. 41° 18′ to 42° 01′, and in long. from 5° 12′ to 5° 55′ E.

Exclusive of water, the area is about 1200 square miles or 768,000 acres. Length 50, and mean width 24 miles.

Natural Geography.—Compared with its limited extent, Rhode Island is a very diversified state. The north-west part is hilly and broken; but gradually becoming level advancing towards the Atlantic ocean. The state is composed of three natural sections; four-fifths of the whole is a generally hilly parallelogram W. from Narragansett bay; the second section is composed of the truly delightful islands of the Narragansett bay, Rhode Island, Prudence, and Conanicut, with a few still smaller; the third section is composed of a small irregular slip along Massachusetts, and E. from Narragansett.

The latter bay is at once the ornament and nursing mother of Rhode Island. To describe this elegant sheet of water is to delineate much of the most beautiful and useful in nature. At its mouth spreads the noble harbour of Newport, and narrowing and shallowing inland for about 25 miles amidst the most attractive scenery, it terminates in the convenient though shallow harbour of Providence.

The soil of Rhode Island is as various as the features of its geography; thin and rocky to the N. W.; level, and in part marshy to the S. E.; but in the islands and on many of the capes jutting into Narragansett bay, exuberantly fertile.

Political Geography.—Providence, the legal an commercial capital of Rhode Island, stands on bot sides of Providence river at the head of Narraga sett bay, 28 miles nearly due N. from Newport, miles S. S. W. from Boston, and about 170 miles E. by E. from New York. N. lat. 41° 50′, long. 36′ E. Pop. 1810, 10,071, and in 1820, 11,767. proportion to population, Providence is, it is pro ble, the most extensive manufacturing and comm cial city of the United States.

Newport stands on the S. W. part of R Island, on a most beautiful circular bay of abou mile diameter, completely land locked, by the jecting points of Rhode Island and Con

island. There is not perhaps a more perfectly formed haven on earth, or one at once more accessible and defensible than Newport. The rise of Providence at the head of the bay and Bristol and other commercial towns along its shores, has operated to check the growth of Newport; but as a maritime station, and even a commercial depot, nature has secured advantages to this charming spot which political revolutions cannot remove, or render nugatory. As a city Newport is still respectable for its extent and population. In 1810, the number of inhabitants was 7907, but in 1820, only 7319.

Counties.	*Chief towns.*	*Pop.* 1820.
Bristol, *e.*	Bristol	5637
Kent, *m.*	East Greenwich	10228
Newport, *s. e.*	Newport	15771
Providence, *n.*	Providence	35736
Washington, *s.*	Kingston	15687
Total		83,059

Of this aggregate, were engaged in	Agriculture	12559
do.	Manufactures	6091
do.	Commerce	1162

Though very limited in extent, the distributive population of Rhode Island is 69 to the square mile, and increased from 1810 to 1820, 6128.

History.—The great founder of Rhode Island, was Roger Williams, who fled from religious controversy in Massachusetts, and fixed himself and followers at the head of Narragansett bay, 1636, calling the place of ther retreat Providence. A female Antinomian leader, Mrs. Hutchinson, soon followed Mr. Williams and settled on "*Red Island*," now Rhode Island. The two little colonies were united by charter procured by Williams from Charles I, in 1643-4. A second charter was obtained from Charles II, in 1663, which continues to be

the constitution of Rhode Island. Brown Ur ty was founded in 1664, and was the last tant historic event particular to this little col upwards of a century. This tranquil perio terminated in 1765, by the stamp act, against and every other violence of the British gover the people of Rhode Island opposed a stea effectual resistance. As early as 1774 th stores and artillery in the colony were seize when the day of open war dawned, one of th effective generals of the Anglo-American sprung like a youthful lion from among the f of Rhode Island. Though morally united fr outset of the contest, it was, however, the las "*Thirteen*," who acceded to the present form neral government under the constitution of Her acquiescence was not obtained until Ma

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SOUTH-CAROLINA.

Position, boundaries, and extent.—Bounded Atlantic ocean S. E.; Savannah river or Gec W.; and by North Carolina N. and N. E.

Beginning on the Atlantic ocean at the extrem southern angle of North Carolina, thence along the Atlantic ocean to the mouth of Savannal river
Up Savannah river opposite Georgia, to N. lat. 35°
Thence along North Carolina to the place of out set

Having an entire outline of

Extending from N. lat. 32° to 35° 10′, and in lo 1° 44′ to 6° 20′ W.

In my Geographical Dictionary I gave square miles as the area of South Carolina; bu suring that state, by the rhumbs on the rece

map, I find the area exceeding 33,000. The greatest length of this state is from its eastern angle on the Atlantic ocean to its extreme western, at the junction of the Savannah and Chatuga rivers, 275 miles; mean width very nearly 120 miles.

Natural Geography.—Similar to Georgia and North Carolina, South Carolina is naturally divided into three zones, the respective area, and distributive population of which, in 1820, are expressed in the following table.

Natural section.	Area in sq. miles	Whites.	Fr. col. people.	Slaves.	Aggregate.	Pop. to sq. mile.
Alluvial	9000	43241	4451	132637	180329	20
Hilly	13000	101537	1801	89013	192351	14½
M'ntainous	11270	93114	553	34807	128474	11½
Amount	33270	237892	6805	256457	501154	15

This table exhibits the comparative general density and the numbers of each caste, and is the only instance in the United States, where the African race preponderates.

The sections are perhaps more distinctly marked in South Carolina than in any other contiguous state. The sea-sand zone rises by a very gentle acclivity from the ocean; the rivers are shallow near their mouths, and much of the surface flooded by the tides and land floods. This outer belt is followed, about the lower falls of the river, by a still more sandy zone, which is in turn succeeded by the real hilly tract between the head of tides and the mountains. The third or mountainous tract, with the exception of the mountain ridges and a still increased elevation, differs in no other essential respect from the middle or hilly zone. Both those latter sections of South Carolina, partake of the general elegant diversity of surface, salubrity of climate, and fertility

of soil, which distinguishes the verge of the Ap chian system in all its length.

The extreme north-western part of South (lina is on the great table land from which the so of the Tennessee flow N. and N. W.; those of (tahooche from S.W.; and those of the Savannal Santee S. E. It is probable that an allowan two degrees of Fahrenheit will be a moderate mate for the effect on temperature by relative l from the south-east to the north-west angle of state, and the difference of lat. being 3° 10′, th tire difference of temperature will exceed Fahrenheit.

The natural vegetation of this tract, combine palms and pines, with the oaks and hickory, a cultivated plants, the sugar cane and orange tr wheat and apple. Cotton, rice, and grain, partic ly the two former, are its staples. Rice is con to the sea coast, and sugar in great part to Bea district. The orange has also a very limited ex

Taken as a whole, it is a very productive s and though the sea coast is not well supplied harbours of the first order, it abounds with tho a secondary class. Besides the Savannah w debouches at its southern extreme, and some sr er streams which flow from the interior, two rivers in part rise within, and in part traverse S Carolina, and convey to its marts the produce o central sections of North Carolina. Similar to o southern states, the interior river navigatio South Carolina is much better than on the sea c

Political Geography.—Charleston adds ano to the already long list of cities, which greatly ceed in importance the legal capitals of the s to which they belong. This already great er porium, stands on the peninsula between Ashley Cooper rivers, 6 miles within the bar, at lat. 32 N. and long. 2° 54′ W.; 550 miles S. S. W. f Washington City. The advance of Charleston

been rather slow; in 1790 the inhabitants were 16,-359, in 1800 they were 18,711, in 1810 they were 24,711, and in 1820 had risen to only 24,780. The canal from the head of Cooper into Santee river has been noticed.

Columbia the capital of South Carolina and seat of justice for Richland district, stands on the left bank of Congaree, immediately below the junction of Saluda and Broad rivers. Geographically, the situation of this place is very remarkable; N. lat. 34° and 81° W. long. from London, intersect within its limits, it is of course 4° 05′ W. from W. C.

The subdivision of South Carolina in place of counties, is into districts as follow:

Districts.	*Chief towns.*	*Pop.* 1820.
Anderson	Anderson	
Abbeville, *n. w.*	Abbeville	23189
Barnwell, *s. w.*	Barnwell C. H.	14750
Beaufort, *extreme s.*	Beaufort	32199
Charleston, *s.*	Charleston	80212
Chester, *n.*	Chester C. H.	14379
Chesterfield, *n.*	Cheraw	6645
Colleton, *s.*	Walterboro	26373
Darlington, *n. e.*	Darlington	10949
Edgefield, *w.*	Edgefield C. H.	24309
Fairfield, *m. n.*	Winsboro	17174
Georgetown, *e.*	Georgetown	17603
Greenville, *n. w.*	Lancasterville	14530
Horry, *e.*	Conwayboro	5025
Kershaw, *n.*	Camden	12442
Lancaster, *n.*	Lancasterville	8746
Lawrens, *w.*	Laurens	17682
Lexington, *m.*	Granby	8083
Marion	Marion	10201
Marlborough, *n. e.*	Bennetsville	6425
Newberry, *m. w.*	Newberry	16104
Orangeburg, *m.*	Orangeburg	15655
Pendleton, *n. w.*	Pendleton	27022
Pickens	Pickens	

Richland	COLUMBIA
Spartanburg, *n. w.*	Spartanburg C. H.
Sumpter, *m.*	Sumpterville
Union, *n. w.*	Unionville
Williamsburgh, *e.*	Kingstree
York, *n.*	York C. H.
Total	

History.—The first settlement of South (
by the whites, appears to have been made
Royal about 1670, but no permanent establ
was formed until 1680, when the few settlers
the country fixed on Oyster Point between
and Cooper rivers and laid the foundation of
of Charleston. Previous, however, to the f
of Charleston, a grant had been made in
Charles II. to Lord Clarendon and seven ot
all that zone of North America, from N. la
36°, and two years afterwards the boundar
extended to N. lat. 36° 30′. The proprieta
ernment of Carolina, was if possible more c
than any other similar government in the
colonies. This confusion was augmented by
scheme and religious contention, which ter
in 1719, by a separation of the two Carolinas,
establishment of a royal government.

One of the events in the history of South
na however, of most importance, was the ir
tion by Gov. Smith in 1695, of the cultivation
cotton followed, and the colony flourishe
checked by Indian war, and subsequently by
the revolution. In the latter contest, South (
suffered severely, and was the theatre of
the most remarkable events which it pr
The names of Marion, Sumter and Lee,
halo of glory over the state. The actions ar
acter of Marion give to the history of the s
campaigns, the rich hue of the epic, with t
grandeur of real facts. The existing gove

or constitution of South Carolina, was adopted June 3rd 1790, amended December 17th 1808, and again December 19th 1816.

TENNESSEE.

Position, boundaries and extent.—Bounded by the Mississippi W., state of Kentucky N., Virginia N. E., North Carolina E., Georgia S. E., Alabama S., and the state of Mississippi S. W.

	Miles.
Beginning on the Mississippi river at N. lat. 36° 30′, thence due E. to Tennessee river,	64
Down Tennessee river,	12
Thence by a line a little south of E. along Kentucky to the south-west angle of Virginia,	250
Continuing the last line along Virginia to the N. E. angle of Tennessee,	105
Thence S. W. along the north-western boundary of North Carolina to the northern boundary of Georgia,	174
Thence due W. along Georgia and N. lat. 35°, to the N. E. angle of Alabama,	100
Along northern boundary of Alabama to the N. E. angle of the state of Mississippi,	140
Thence along Mississippi to Mississippi river,	116
Up the latter river to the place of outset,	150
Having an entire outline of	1111

Extending from N. lat. 35° to 36° 40′, and in long. from 4° 12′ to 13° 14′ W. The area of Tennessee measured by the rhumbs, is 43,265 square miles. The mean length of Tennessee from E. to W., is about 400 miles, and mean width 108.

Natural Geography.—It has already been remarked under several heads, that the climate of the Atlantic states changed with the meridians, and a similar remark may be repeated in regard to Tennessee. A difference of level amounting to at least

800 feet, must exist between the alluvial banks of the Mississippi and the mountain vallies of the higher branches of Tennessee. The state is therefore an inclined plain, falling from the table land of the Appalachian system by a descent affecting relative temperature to the amount of 2° of Fahrenheit.

From such structure, the extremes of the state admit the profitable culture of cotton and small grain, and its most fertile river vallies, it is supposed by many, are the most favorable to the development of indian corn, of any place found in the United States. Fruits flourish ndantly, and to the apple and peach the ght no doubt be added.

Iron and salt are also products f Tennessee, as are gypsum, nitrous earth, bea l marbles, and some other fossils. The iron ypsum are the most plentiful and valuable of e ineral bodies in the state.

In its natural state, Tennessee was covered with a most dense and specifically diversified forest, which added to its cultivated vegetables, and metallic and fossil wealth, give great variety and value to the staple commodities, which are again indefinitely augmented by domestic animals. Provisions indeed of all kinds, and horses, cattle and hogs are exported to great amount annually.

The two fine rivers, Cumberland and Tennessee, which traverse this state, give considerable commercial facility; but the lowness of the water in autumn, and the great distance of Eastern Tennessee, from even the Mississippi, superinduce the rearing and transportation of live stock.

Political Geography.—Nashville, the commercial and legal capital of Tennessee, stands on the east bank of Cumberland river, 430 miles N. E. from Natchez, 480 N. N. E. from New O and by the post road 709 miles N. W. by W. Washington City, N. lat. 36° 09', long. 9° 38

The advance of Nashville has been very rapid of late years; in 1820 the population was estimated at 4000, at present the number amounts to upwards of 6000 and places this city in rank next to Pittsburg.

Knoxville in East Tennessee contains about 3000 inhabitants, and a number of the county seats from 500 to 1500.

Counties.	*Chief Towns.*	*Pop.* 1820.
Anderson, *m. e.*	Clinton	4,668
Bedford, *m. s.*	Shelbyville	16,012
Bledsoe, *m. e.*	Pikeville	4,005
Blount, *e.*	Marysville	11,258
Campbell, *n. e.*	Jacksboro	4,244
Carroll, *w.*	Huntingdon	
Carter, *e. m.*	Elizabethtown	4,835
Claiborne, *n. e.*	Tazewell	5,508
Cocke, *e.*	Newport	4,892
Davidson, *m.*	NASHVILLE	20,154
Dickson, *m.*	Charlotte	5,190
Dyer, *w.*	Dyerburg	
Fayette, *s. w.*	Summerville	
Fentess, *n.*	Jamestown	
Franklin, *s.*	Winchester	16,571
Gibson, *w.*	Trenton	
Giles, *s.*	Pulaski	12,558
Grainger, *m. e.*	Rutledge	7,651
Greene, *e.*	Greenville	11,324
Hardiman, *s. w.*	Bolivar	
Hamilton, *s. e.*	Hamilton	821
Hardin, *s.*	Savannah	1,462
Hawkins, *n. e.*	Rogersville	10,949
Haywood, *w.*	Brownsville	
Henderson, *w.*	Lexington	
Henry, *n. w.*	Paris	
Hickman, *m. s.*	Centreville	6,080
Humphries, *m. w.*	Reynoldsburg	4,067
Jackson, *n.*	Gainsboro	7,593
Jefferson, *e.*	Dandridge	8,953
Knox, *m. e.*	Knoxville	13,034
Lawrence, s.	Lawrenceburg	3,271

Coun	*Chief Towns.*	*Pop.* 1820.
oln,	Fayetteville	14,761
inn, s. e.	Athens	1,623
Iairy, s.	Purdy	
on, w.	Jackson	
n, s. e.	Jasper	3,888
, m. s.	Columbia	22,141
e, s. e.	Rockville	2,529
omery, n.	Clarksville	12,219
, n.	Montgomery	1,676
n, n.	Monroe	7,128
Obion, n. w.		
Perry, m. w.		2,384
Rhea, m. e.		4,215
Roane, m. e.		7,895
Robertson, n.		9,938
Rutherford, m.	M	19,552
Sevier, e.	S	4,772
Shelby, w. s.	R	354
Smith, n.	Ca	17,580
Stewart, n. w.	Dove.	8,397
Sullivan, n. e.	Blountsville	7,015
Sumner, n.	Gallatin	19,211
Tipton, w.	Covington	
Warren, m.	M'Minville	10,348
Washington, e.	Jonesboro	9,557
Wayne, s.	Waynesboro	2,459
Weakley, n w.	Dresden	
White, m.	Sparta	8,701
Williamson, m.	Franklin	20,640
Wilson, m. n.	Lebanon	18,730
Total		422,813

Of the preceding aggregate were whites, 340,919, ree coloured persons 2,737, and slaves 79,157.

Engaged in Agriculture,		101,919
Do.	Manufactures,	7,860
Do.	Commerce,	882

Progressive population.

1790	35,691	1810	261,725
1800	105,602	1820	422,613

There is no rational doubt, but that by the census of 1830, the population of Tennessee will considerably exceed 600,000.

History.—Though a few scattering settlements preceded that period, the building of Fort Loudon in East Tennessee 1757, commenced the real colonization of the country, a colonization made in blood. A war with the Cherokees broke out in 1759, and in the ensuing year, Fort Loudon was taken and the garrison and inhabitants massacred. In 1761 Col. Grant forced the Indians to a peace, and settlers gradually entered Upper Tennessee. No real peace could be maintained with the savages, nor were the frontiers of Tennessee really safe until the close of the revolutionary war.

West Tennessee began to be settled about the same period with East Tennessee, and the same causes of suffering and retardation, operated on both settlements. The battle of King's Mountain, Oct. 7th 1780, gained in great part by the hardy riflemen of Tennessee and Kentucky, was a most momentous event in the history of both, and was the expiring struggle of their worst enemies, the British, and gave them security against the savages. Intestine violence however, distracted the country for several years. Between 1784 and 1789, attempts were made to form East Tennessee into a separate state, by the name of Frankland. In 1790 North Carolina ceded the whole of what is now Tennessee to the United States, and the same year in May, it was made the territory south west of the Ohio.

The territorial government continued until June 1795, when the inhabitants of both Tennessees being found to amount to 77,262, a convention was called who met at Knoxville, January 11th 1796, and on February 9th reported a constitution for the new state, which on June 1st of the same year, was formally received into the confederacy as an independent member.

VERMONT.

Position, boundaries and extent.—Bou
Lower Canada N., Connecticut river or New
shire E., Massachusetts S., and New York

Having an outline along Connecticut river opp
New Hampshire,
Along the northern boundary of Massachusetts,
In common with New York from N. W. angl
Massachusetts to N. lat. 45° on Lower Canada,
Thence along N. lat. 45° and Lower Canada to
place of outset,

Having an entire outline of
Extending from 42° 44′ to 45° N. lat. and
3° 38′ to 5° 33′ E. Area 9380 square mile
length equivalent to the difference of latitud
or 157 statute miles, mean width 59 miles.

Natural Geography.—Vermont is comp
two not very unequally inclined planes, with
of comparatively high mountains, extend
whole length of the state, in a direction d
from the meridians N. N. E. and S. S. W
remarkable that this main chain of mountai
the dividing ridge of the rivers. Onion, La
and Missisque rivers, all rise to the east and
the Green Mountains in their western cou
lake Champlain. Otter river on the contra
west of the main chain, near the S. W. angl
state, and flows N. N. W. into lake Cha
The water courses of the eastern slope of V
enter the Connecticut river, and are compa
humble in length of course.

In the physical part of this view, I have
shewn that lake Champlain was only 90 fee
ted above the Atlantic tides. It is probab
many cultivated parts of Vermont are at lea
feet, giving a difference in temperature of
two and three degrees of Fahrenheit, from

of relative level. The winters are severe even to an extent beyond what could be expected from either latitude or height.

The surface of the state is generally hilly, but not rocky, with a fine productive soil. The natural growth on the mountains, is evergreen, composed of pines, cedars, spruces, hemlock and laurels, from which the name of the state and of the mountains themselves is derived.

The staples are grain, timber, pot and pearl ashes, live stock, and some iron. The commercial facilities of Vermont have been incalculably enlarged and improved by the canal works, formed along Connecticut river, and still more by the Hudson and Champlain canal. If the navigation of the Sorel and St. Francis rivers were made complete, this state would possess an inland navigation in a high degree advantageous; already the surplus products find a ready means of transportation to profitable markets.

Political Geography.—Montpelier, the capital of the state and seat of justice for Washington county, stands in a most picturesque mountain valley on the right bank of Onion river, 167 miles N. N. E. from Albany, 158 N. W. from Boston, and about 120 S. E. from Montreal, N. lat. 44° 16′ and long. 4° 28′ E. Pop. 1820, about 2500.

In all the combined advantages of population, manufactories and seminaries of education, Middlebury, seat of justice for Addison county, is the real capital of Vermont, though in the mere number of inhabitants it is exceeded by Bennington. Middlebury is situated on the right bank of Otter river, about 40 miles S.W. from Montpelier; Bennington on Hoosack river, 38 miles N. E. from Albany. There are several other flourishing villages in Vermont, the principal of which will be found annexed to their respective counties.

Counties.	*Chief Towns.*	*Pop.* 1820.
Addison, *w.*	Middlebury	20,469
Bennington, *s. w.*	Bennington	16,125
Caledonia, *n. e.*	Danville	16,669
Chittenden, *n. w.*	Burlington	16,055
Essex, *n. e.*	Guildhall	3,284
Franklin, *n. w.*	St. Albans	17,102
Grand Isle, *n. w.*	North Hero	3,527
Orange, *e.*	Chelsea	24,681
Orleans, *n.*	Craftsbury	6,976
Rutland, *w.*	Rutland	29,983
Washington, *m.*	MONTPELIER	14,113
Windham, *s. e.*	Fayetteville	28,457
Windsor, *e.*	Woodstock	38,233
Total		235,764

The aggregate population in 1810 was 217,895, the inhabitants therefore had increased upwards of 8 per cent in the intermediate 10 years, and such ratio of increase if maintained, will give to Vermont in 1830 an aggregate population of about 255,000.

By the census of 1820, there were engaged in Agriculture, 50,950; in Manufactures, 8,484; in Commerce, 776.

History.—Vermont, like Delaware, owes its existence as a state to the vague charters and conflicting claims of contiguous colonies. The first actual civilized settlement within its existing limits, was made in 1724, by the building of Fort Durance, on Connecticut river, by the people of Massachusetts. In 1731, Crown Point, on lake Champlain, was founded on the western shore of lake Champlain by the French, and scattering settlements commenced on the opposite bank now in Vermont. The conquest of Canada in 1760, and its ultimate cession to Great Britain in 1763, opened Vermont to emigration. New Hampshire claimed the soil and granted lands to settlers; New York asserted its claim under the Duke of York's patent, and the con-

l rights being referred for decision to the Bri-
rown, New York prevailed, and New Hamp-
acquiesced. But the great mass of the actual
rs held under the latter, and the former, by an
injustice and folly, declared the New Hamp-
grants null and void, and of course forced the
e to a resistance which justice and despair ren-
l successful.

ough, however, unconnected with any other
y, and unacknowledged as a separate jurisdic-
he people of Vermont entered warmly into re-
ce to the arbitrary acts of Great Britain, and
ghout the revolutionary war acted a most con-
ous part in the contest.

the peace of 1783, Vermont was in a peculiar
ion; with no connexion with the confederated
, except national sympathy, and their well de-
l share of honor gained by the issue of
flict in which all had partaken the dan-
he Vermontese stood opposed to New York,
egislature of which persisted in their claim.
claim was withdrawn in 1789, in consideration
payment by Vermont of 30,000 dollars. This
ious controversy terminated, a convention was
to deliberate on the expediency of joining the
d States, which was determined in the affirma-
The consent of Congress was obtained, and
arch 4th, 1791, Vermont became the fourteenth
of the confederacy.

e existing constitution was formed by conven-
eld at Windsor, July 4th, and adopted July 9th,
Since the latter period, tranquillity and plen-
ve reigned over Vermont.

VIRGINIA.

ition, Boundaries, and Extent.—Bounded by the
ic ocean, S. E.; by North Carolina, S.; Tennessee,

S. W.; Kentucky, W.; Ohio river and state of Ohi
W.; Pennsylvania and Maryland N.; and Maryland, N
1

Having an outline on the Atlantic ocean of
In common with Maryland, from the Atlantic ocean to the mouth of Potomac
Up Potomac river to its source
Thence due N. to the south boundary of Pennsylvania
Thence due W. to the S. W. angle of Pennsylvania
Thence due N. along the west boundary of Pennsylvania to Ohio river
Down Ohio river, following its bends, to the mouth of Big Sandy river
From the mouth of Big Sandy river, in common with Kentucky, to the northern boundary of Tennessee, on N. lat. 36° 30′
Thence E. along Tennessee and North Carolina to the Atlantic ocean

Having an entire outline of
Extending from N. lat. 36° 30′, to 40° 37′, and in l
from 1° 21′ E. to 6° 40′ W.

On the recently published state map of Virgi
the area is given at a fraction above 66,000 sq
miles. The preceding aggregate is made up f
the particular superficies of the counties, but
same map, when the rhumbs are carefully m
sured, yields a small fraction above 70,000 sq
miles. At the estimate on the map it is still
most extensive state of the United States.
greatest length is along the southern boundary,
miles, and if the area is assumed at 66,000 sq
miles, the mean width will be 150 miles.

Natural Geography.—Virginia, next to Geo
and Illinois, has the greatest range of latitud
any state of the United States, and if we duly re
the high vallies of the Appalachian system, it
be doubted whether Virginia does not exceed
Georgia in extremes of temperature. The extr

of latitude between the northern limit of North Carolina, and the northwest angle on Ohio, are 4° 07′, and the difference arising from relative level cannot fall short of 3 degrees of Fahrenheit, consequently the difference of seasons about equal to 7 degrees of latitude on the Atlantic coast. The whole surface of the state is composed of two unequally inclined planes; the larger declining towards the Atlantic ocean, and the lesser towards Ohio river. The line of separation or apex of these planes traverses the Appalachian system obliquely.

In point of soil Virginia is divisible into three zones; the eastern part sea-sand alluvial; the middle or hilly, and the western or mountainous. The subjoined table expresses the respective area and the population according to the census of 1820.

Summary.	*Sq. Miles.*	*Pop.* 1820.	*Pop. to sq. m.*
East Virginia	8,875	262,524	30
Middle Virginia	24,300	655,266	26
West Virginia	32,825	147,514	4½

Though the habitable zones of Virginia are not so very distinctly marked as in the Carolinas and Georgia, yet in the former as in the latter cases, each part has its appropriate character. The oceanic section of Virginia is its tropical climate. Latitude, exposure, and depressed level, all combine to give the Chesapeake counties a much more elevated temperature than is found in the interior. This difference is seen on vegetation. In the lower counties, cotton may be cultivated successfully, whilst the uncertainty of grain and meadow grasses, evinces a southern summer.

The middle, as in fact in all the Atlantic states south from Pennsylvania, we find the Arcadia of the state. The Middle Virginia is, however, blended with the mountainous, the former containing the whole or great part of the valley counties, Berkley, Jefferson, Frederick, Shenandoah, Rocking-

ham, Augusta, Rockbridge, Botetourt, Montgon ry, Wythe, and Washington.

The real Mountain section lies northwest fr the Middle, and extends to the Ohio. The extre western part is indeed composed of a congeries hills, with alluvial bottoms, but the actual mo tain ridges encroach so near Ohio river, and t hills are in themselves so generally abrupt and lof as to give an alpine appearance to the country.

Taken as a whole, Central Virginia is the best respect to soil, though in the mountainous part the is much that is excellent. Density of populati has in this state been less influenced by fertility soil than on any other section of the United State

With the exception of the south-eastern counti grain and orchard fruits are highly congenial to Vi ginia, and the various products of the latter are t natural, actual, and we may safely say, the perm nent staples of the state. Of metals, iron ore abundant in the central and western sections. S water has been procured on the Great Kenhaw and that indispensable article extensively man factured.

The natural navigable facilities, and the evide meliorations they admit, call loudly on Virginia rival, in canal and road improvements, the mo active and powerful of her sister states.

Political Geography.—Richmond, the capital Virginia, is situated on an elegant acclivity, risi from the left bank of James river, directly at i lower falls and head of tide, 126 miles S. 17° V from Washington city; lat. 37° 27′ N., and long. 33′ W. Population in 1810, 9735; in 1820, it h risen to 12,067. The site and appearance of Ric mond are highly pleasing. No city of the Unit States of equal population has a more imposing a pect when viewed from a good position. It is al a commercial depot of far more consequence th might be supposed from comparative population.

Norfolk is the commercial capital of the state, situated on Elizabeth river immediately below the junction of its two main branches, and 8 miles above Hampton-roads, N. lat. 36° 50′, and long. 49′ E. Population in 1820, 8,478.

Petersburg, on the right bank of Appomatox, at the head of the tides, 25 miles south from Richmond, is a place of great trade in grain, flour, cotton, and tobacco; population, about 6000. This city stands in three counties, Chesterfield, Dinwiddie, and Prince George.

Lynchburg, capital of Campbell co., stands on the right bank of James river, 118 miles W. from Richmond, lat. 37° 18′ N., long. 2° 16′ W. Though not so marked on our maps, this city occupies a mountain gap, where James river passes the south-east mountain. Few of the interior towns of the United States exceed Lynchburg in commerce, or what may appear more remarkable, in manufactures. It is the emporium of an extensive, fertile, and well cultivated country. The river is navigable from here to Richmond, and immense quantities of flour, tobacco, wheat, hemp, and other products are sent down. Population about 6000.

Charlotteville, seat of justice of Albemarle county, Virginia, seated on the Rivanna river 86 miles north-west from Richmond, at N. lat. 38° 03′ and 1° 28′ W., has become a place of great interest from the location there, in 1825, of the University of Virginia. It is also a place of considerable commercial importance.

Fredericksburg on the Rappahannoc, Leesburg, Winchester, Harper's Ferry, Fincastle, Christiansburg, Evansham, Abingdon, Staunton, Wheeling on the Ohio, and some others are flourishing towns. The latter is a very prosperous depot, and for more than half the year at the head of steam boat navigation.

The subjoined lists of counties are formed from

the natural sections, and serve to exhibit the distributive population.

Eastern or Alluvial Section of Virginia.

Counties.	*Chief towns.*	*Pop.* 1820.
Accomac, *e.*	Drummondstown	15969
Caroline, *e.*	Bowling Green	18008
Charles City, *s. e.*	Charles City	5255
Elizabeth City, *s. e.*	Hampton	3789
Essex, *e.*	Tappahannock	9909
Gloucester, *e.*	Gloucester C. H.	9678
Greensville, *s.*	Hicksford	6858
Isle of Wight, *s. e.*	Isle of Wight C. H.	10139
James City, *e.*	Williamsburg	4563
King and Queen, *e.*	King and Queen C. H.	11798
King George, *e.*	King George C. H.	6116
King William, *e.*	King William C. H.	9697
Lancaster, *e.*	Lancaster C. H.	5517
Mathews, *e.*	Mathews C. H.	6920
Middlesex, *e.*	Urbana	4057
Nansemond, *s. e.*	Suffolk	10494
New Kent, *e.*	New Kent C. H.	6630
Norfolk, *s. e.*	Norfolk	23943
Northampton, *e.*	Eastville	7705
Northumberland, *e.*	Northumberland C. H.	8016
Princess Anne, *s. e.*	Kempsville	8767
Prince George's, *m. s.*	City Point	8030
Prince William, *e. n.*	Brentsville	9419
Richmond, *e.*	Richmond	5706
Southampton, *s. e.*	Jerusalem	14170
Surry, *s. e.*	Surry C. H.	6594
Sussex, *s. e.*	Sussex C. H.	11884
Warwick, *e.*	Warwick	1608
Westmoreland, *e.*	Westmoreland C. H.	6901
York, *e.*	Yorktown	4384
Total		262,524

Middle Virginia.

Albemarle, *m.*	Charlottesville	19750
Amelia, *m. s.*	Amelia C. H.	11106

Counties.	*Chief towns.*	*Pop.* 1820.
Amherst, *m.*	Amherst C. H.	10426
Augusta, *m.*	Staunton	16724
Bath	Bath C. H.	5237
Bedford, *m. s.*	Liberty	19305
Berkeley, *n.*	Martinsburg	11211
Botetourt, *m. w.*	Fincastle	13589
Brunswick, *s.*	Gholsonville	16687
Buckingham, *m.*	Buckingham C. H.	17570
Campbell, *m. s.*	Lynchburg	16569
Charlotte, *s.*	Charlotte C. H.	13290
Chesterfield, *m. e.*	Chesterfield C. H.	18003
Culpepper, *m. n.*	Culpepper C. H.	20942
Cumberland, *m.*	Cumberland C. H.	11023
Dinwiddie, *m. s.*	Dinwiddie C. H.	20482
Fairfax, *n. e.*	Fairfax C. H.	11404
Fauquier, *n. e.*	Warrenton	23103
Fluvanna, *m.*	Columbia	6704
Franklin, *s.*	Rocky Mount	12017
Frederick, *n.*	Winchester	24706
Goochland, *m.*	Goochland C. H.	10007
Halifax, *s.*	Bannister	19060
Hampshire, *n.*	Romney	10889
Hanover, *m. e.*	Hanover C. H.	15267
Hardy, *n.*	Moorefields	5730
Henrico, *m. e.*	RICHMOND	23657
Henry, *s.*	Martinsville	5624
Jefferson, *n.*	Charleston	13087
Loudoun, *n. e.*	Leesburg	22702
Louisa, *m.*	Louisa C. H.	13746
Lunenburg, *s.*	Lewistown	10662
Madison, *m.*	Madison	8490
Mecklenburg, *s.*	Boydton	19786
Morgan, *n.*	Bath	2500
Nelson, *m.*	Lovingston	10137
Nottaway, *m. s.*	Nottaway C. H.	9658
Orange, *m.*	Orange C. H.	12913
Patrick, *s.*	Taylorsville	5089
Pendleton, *m.*	Franklin	4836
Pittsylvania, *s.*	Competition	21313
Prince Edward, m. s.	Prince Edward C. H.	12577

Counties.	*Chief Towns.*	*Pop.* 1820.
Pocahontas, *m. w.*	Huntersville	
Powhatan, *m.*	Scottsville	8292
Rockbridge, *m.*	Lexington	11945
Rockingham, *m.*	Harrisonburg	14784
Shenandoah, *m. n.*	Woodstock	18926
Spottsylvania, *m. e.*	Fredericksburg	14254
Stafford, *n. e.*	Stafford C. H.	9517
Total		655,265

Western or Mountainous Virginia.

Brooke, *n. w.*	Wellsburg	6611
Cabell, *w.*	Cabell C. H.	4789
Giles, *w.*	Parisburg	4521
Grayson, *s. w.*	Grayson C. H.	5598
Greenbrier, *m. w.*	Greenbrier C. H.	7041
Harrison, *n. w.*	Clarksburg	10932
Kenawha, *w.*	Charleston	6400
Lee, *s. w.*	Lee C. H.	4256
Lewis, *n. w.*	Weston	4247
Mason, *w.*	Point Pleasant	4868
Monongalia, *n. w.*	Morgantown	11060
Monroe, *m. w.*	Union	6620
Montgomery, *s. w.*	Christiansburg	8733
Nicholas, *w.*	Nicholas C. H.	2853
Ohio, *n. w.*	Wheeling	9182
Preston, *n. w.*	Kingwood	3422
Randolph, *n. w.*	Beverly	3357
Russel, *s. w.*	Lebanon	5536
Scott, *s. w.*	Estillville	4263
Tazewell, *s. w.*	Jeffersonville	3916
Tyler, *n. w.*	Middlebourne	2314
Washington, *s. w.*	Abingdon	12444
Wood, *n. w.*	Parkersburg	5860
Wythe, *s. w.*	Evansham	9692
Total,		147,514

From the foregoing analysis we discover the very great inequality of distributive population in Virgi-

nia; on the Eastern section 30 to the square mile; on the Middle region 26; and on the Western only 4½. The distribution of the castes is not less remarkable:

In 1820, there were in the east and centre, whites 452,930, of the coloured caste 424,370; whilst in the western there were, whites 132,790, and of the coloured caste only 13,296; eastern and middle, the proportions of the castes very nearly 45 white to 42 coloured; in the west, the whites were as 132 to 13 to the coloured race.

Of the whole aggregate population of Virginia, by the census of 1820, there were,

Engaged in	Agriculture	276,422
Do	Manufactures	32,336
Do	Commerce	4,509

Progressive Population.

1790	747,601	1810	974,622
1800	886,149	1820	1,065,366

The advance of population in Virginia it appears has been nearly steady, at about from 10 to 12 per cent. in 10 years. The increments in the first two periods demand a little higher ratio, but 11 per cent in the three periods come very near the result by the census. If the rate of increase is not accelerated it will demand nearly a century to double. The general existing population must be about 18 to the square mile.

History.—Virginia was the first Anglo-American colony, and "the first germ of a mighty nation." The name of Virginia was derived from Raleigh's patent, and was, at the period of colonization, the common English name for the eastern coast of North America. James I., by letters patent, April 10th, 1606, granted to two companies, the London Company and the Plymouth Company, all that part of the American coast from N. lat. 34° to 45°, un-

der the names of North Virginia and South Virginia. The latter effected an actual settlement on Powhatan, now James river, May 15, 1607, and thus commenced the UNITED STATES. The early advance was very slow; the colony was regarded with general indifference in England. In 1619 the first legislature was convened, an advantage more than counterbalanced, the ensuing year, by the introduction of the first African slaves.

During the revolution in England, from 1642 to 1660, Virginia espoused the royal cause, and was the first place where Charles II. was proclaimed on his restoration, and in 1661 the Episcopal church was established by act of Assembly. This and other acts equally injudicious produced a rebellion in the colony, in which the capital, Jamestown, was burned. The instigator of the insurrection, Bacon, died suddenly, but Virginia was rewarded for its devotion to the Stewarts, by oppression which terminated only by the ruin of that misguided house. The revolution in 1688, extended its salutary effects into every section of English domination, and Virginia shared the benefits. Nearly 80 years of peace and prosperity was followed by the revolutionary struggle, in which Virginia gave to the sister colonies the whole of her energies, and, what was perhaps more, she gave them a leader whose name adorns history, and whose character proves to what exalted elevation human virtue may be raised.

The constitution of Virginia was adopted July 5th, 1776, and, except the illustrious acts of her sons in the two wars with Great Britain, the state has since the latter period afforded few events for history. The establishment of the University of Virginia at Charlottesville, March 1825, and recent attempts at an amendment of her constitution, are the only recent public acts particular to this state.

THE END.

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[* * The reader will notice, that the individual counties are not included in this index, as they are already alphabetically arranged in Chapter XII. under the heads of the respective states: therefore, to find any required county, turn to the state to which it belongs, and it will be found in its place.]

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☞ The Map of the United States is nearly completed, and will be published early in the spring of 1829.

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